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STATE OF CALIFORNIA  
The Resources Agency  
Department of Water Resources

BULLETIN No. 181-70

WATERMASTER SERVICE

IN THE

UPPER LOS ANGELES RIVER AREA

LOS ANGELES COUNTY

FOR PERIOD

OCTOBER 1, 1969 THROUGH SEPTEMBER 30, 1970

MARCH 1971

NORMAN B. LIVERMORE, JR.  
*Secretary for Resources*  
The Resources Agency

RONALD REAGAN  
*Governor*  
State of California

WILLIAM R. GIANELLI  
*Director*  
Department of Water Resources

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## FOREWORD

The Upper Los Angeles River Area is one of four areas within the Southern District to come under the Department of Water Resources' supervision as a Watermaster Service Area. The Department thus assists the Court and the parties affected by the ground water basins described in the Judgment entered in the Superior Court for the County of Los Angeles, in Case No. 650,079, entitled, "The City of Los Angeles, plaintiff, vs. City of San Fernando, et al., defendants.

This annual report has been prepared for the Court and the parties to the above-mentioned Judgment. Authorization for this report is contained in Paragraph 2, Section X of said Judgment.

Herein is information on: water supply, water use and disposal, water levels, transfers of water rights, compliance with or violation of the Judgment, and on administrative costs. This report also contains the tentative budget of the Watermaster for the 1971-72 water year.



James J. Doody  
District Engineer  
Southern District  
and Watermaster  
R.E. CE 6500

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State of California  
The Resources Agency  
DEPARTMENT OF WATER RESOURCES

Ronald Reagan, Governor  
Norman B. Livermore, Jr., Secretary for Resources  
William R. Gianelli, Director, Department of Water Resources  
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-----  
SOUTHERN DISTRICT

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Watermaster

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and report prepared under the direction

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by

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## ABSTRACT

The Upper Los Angeles River Area is the fourth area which has come under the Department of Water Resources' supervision as a Watermaster Service Area within the Southern District of the Department./ Watermaster Service provided by the Department, helps to protect and guarantee continued use of ground water by the parties of the area consistent with the provisions of the Judgment entered in Superior Court Case No. 650,079, under which the Watermaster was appointed./ The Upper Los Angeles River Area contains a total of 329,000 acres, comprising 123,000 acres of valley fill areas (ground water basins) and 206,000 acres of hill and mountain areas located primarily in the northwest section of Los Angeles County, with a small portion being in the County of Ventura./ The Watermaster has prepared this report for the Court and the parties to said Judgment. The report covers water supply, water use and disposal, water levels, transfers of water rights, compliance with or violation of the Judgment, and administrative costs.

## CHAPTER I. THE UPPER LOS ANGELES RIVER AREA

The Upper Los Angeles River Area containing four distinct ground water basins was established by the JUDGMENT AFTER TRIAL BY COURT in Superior Court Case No. 650,079, entitled "The City of Los Angeles, A Municipal Corporation, Plaintiff, vs. City of San Fernando, et al., Defendants", signed March 14, 1968 by the Honorable Edmund M. Moor, Judge of the Superior Court. Prior to the Judgment, numerous pretrials were held, subsequent to the filing of the action by the City of Los Angeles in 1955 and before the trial commenced on March 1, 1966.

On March 19, 1958, an Interim Order of Reference was entered by the Court directing the State Water Rights Board (now known as the Water Resources Control Board) to study the availability of all public and private records, documents, reports, and data relating to a proposed order of reference in the case. The Court subsequently entered an order on June 11, 1958, entitled "Order of Reference to State Water Rights Board to Investigate and Report Upon the Physical Facts (Section 2001, Water Code)".

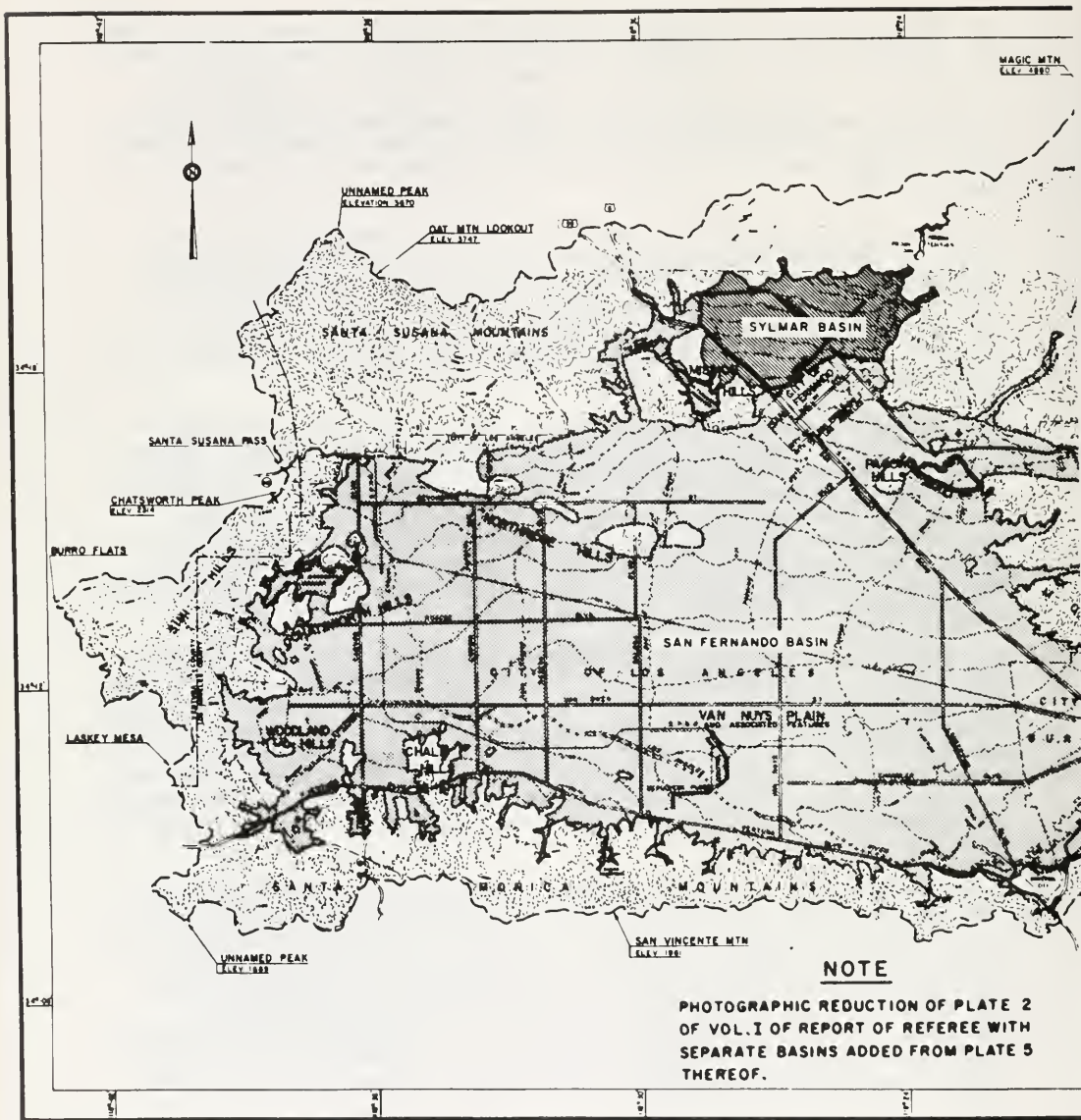
A final Report of Referee was approved on July 27, 1962 and filed with the Court. The Report of Referee made a complete study of the geology, insofar as it affects the occurrence and movement of ground water, and the surface and ground water hydrology of the area. In addition, the Board investigated the surface location of the beds and banks and of the channels of the Los Angeles River and its tributaries; the areas, limits, and directions of flow of all ground water within the area; the quality of the ground water basins; all sources of water, whether it be diverted, extracted, or imported, etc. This was the basis for the Judgment.

The City of Los Angeles has since filed an appeal with the Court of Appeals. The City of Los Angeles' brief is on file and The Metropolitan Water District of Southern California has filed a brief amicus curiae on behalf of appellant. Originally, the defendant's briefs were due March 24, 1970, and the appellant's closing brief due July 13, 1970. However, as of this writing, the Court has scheduled the time for filing respondents' briefs to April 8, 1971, and the appellant's closing brief to July 28, 1971. It thus appears that the appeal in this matter will not be ready for hearing until in or about the middle of 1971.

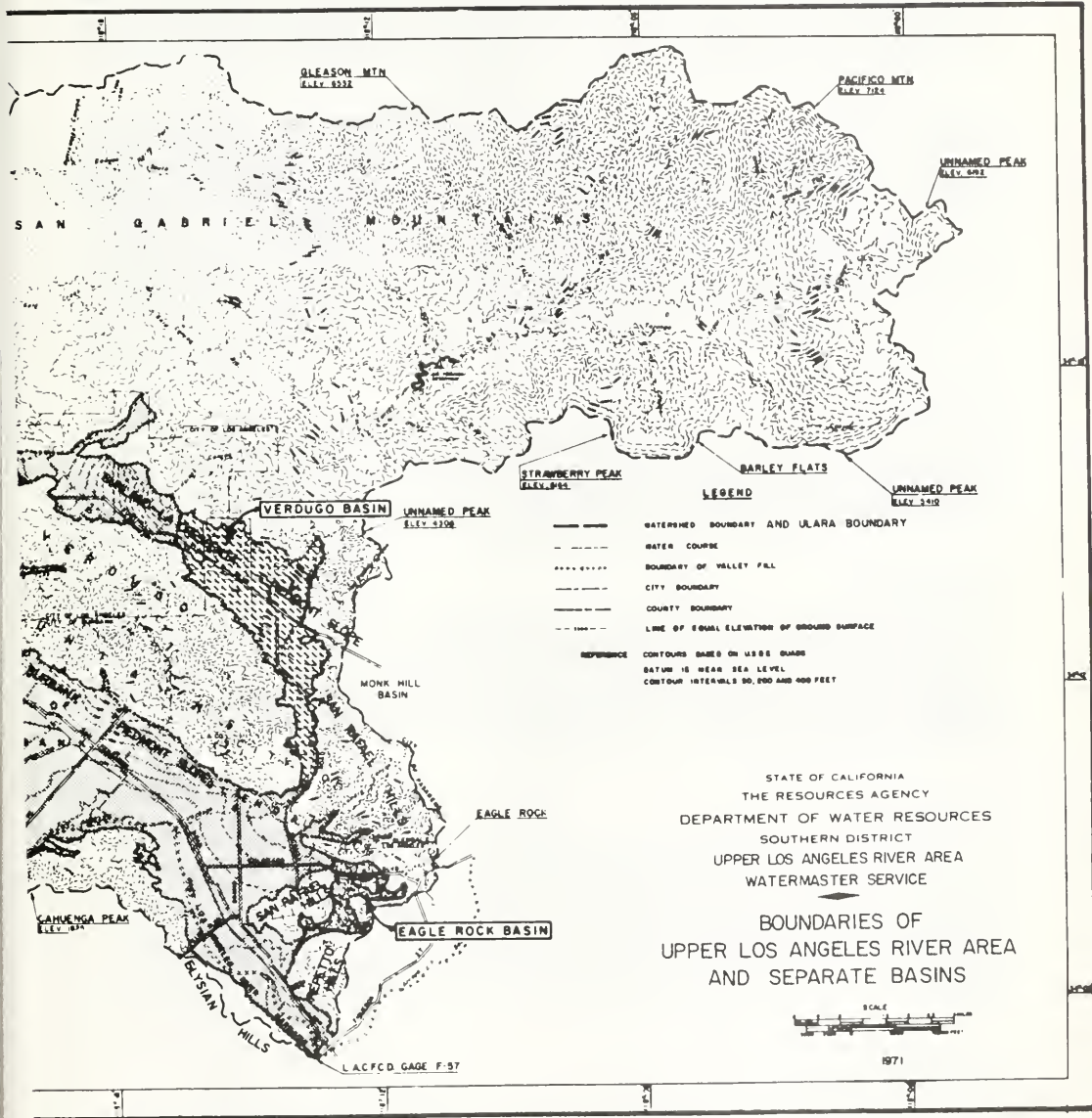
Under the Judgment, the Court appointed the Department of Water Resources as Watermaster and the Department, in turn, created the "Watermaster Service Area" pursuant to Division 2, Part 4, Chapter 2 of the California Water Code. As stated in the Judgment (Section X, paragraph 1), the Watermaster was appointed to assist the Court in the administration and enforcement of the provisions of the Judgment, and to keep the Court fully advised in the premises. It is hoped that this appointment, as Watermaster, may be beneficial to the parties to the suit, serve the best interests of the State, and aid in accomplishing the results contemplated by Section 4025 of the Water Code.

The Upper Los Angeles River Area (hereinafter referred to as ULARA) encompasses all of the watershed of the Los Angeles River and its tributaries above a point in said river designated as Los Angeles County Flood Control District Gaging Station F-57C, northwesterly of the junction of the surface channels of the Los Angeles River and the Arroyo Seco. See Plate 1.









The entire area consists of approximately 329,000 acres, comprising 123,000 acres of valley fill area, referred to as the ground water basins, and 206,000 acres of hill and mountain areas. ULARA is bounded on the north by the Santa Susana Mountains and on the west by the Simi Hills. To the south, the Santa Monica Mountains separate it from the Los Angeles Basin and to the east the San Gabriel Mountains separate it from the San Gabriel Basin.

ULARA, as defined in the Judgment, has four distinct hydrologic ground water basins, three of which the Watermaster is required to administer independently of each other. The water supplies of these basins are separate and independent, and are replenished by deep percolation from rainfall and from a portion of the water that is delivered for use within these basins and which returns to the ground water body. The four ground water basins in ULARA are the San Fernando Basin, the Sylmar Basin, the Verdugo Basin, and the Eagle Rock Basin. The Eagle Rock Basin is not administered by the Watermaster. These ground water basins are described below and depicted in Plate 1.

#### San Fernando Basin

The San Fernando Basin is the largest of the four basins in ULARA. It consists of approximately 112,047 acres and comprises 90.8 percent of the total valley fill. It is bounded on the east and northeast by the San Rafael Hills and Verdugo Mountains, on the northwest and west by the Santa Susana Mountains and Simi Hills, and on the south by the Santa Monica Mountains.

#### Sylmar Basin

The Sylmar Basin is located on the northerly part of ULARA. It consists of approximately 5,565 acres and comprises 4.5 percent of the total valley fill. It is bounded on the north and east by the San Gabriel Mountains; the topographic divide in the valley fill, lying between the Mission Hills and San Gabriel Mountains, divide it on the west; and to the south it is divided by the eroded limb of the Little Tujunga syncline.

#### Verdugo Basin

The Verdugo Basin is located to the north and east of the Verdugo Mountains in ULARA. It consists of approximately 4,400 acres and comprises 3.8 percent of the total valley fill. It is bounded on the north by the San Gabriel Mountains, on the south and southwest by Verdugo Mountains, on the southeast by the San Rafael Mountains, and on the east by the ground water divide between the Monk Hill Subarea of the Raymond Basin and the Verdugo Basin.

#### Eagle Rock Basin

Eagle Rock Basin is the smallest of the four basins in ULARA and comprises approximately 807 acres and consists of 0.6 percent of the total valley fill. It is located in the extreme southeast corner of ULARA. No determination was made regarding overdraft or surplus in the Eagle Rock Basin. Therefore, no restrictions on ground water extractions were imposed on the Eagle Rock Basin.

Except for Sparkletts Drinking Water Corporation and Deep Rock Artesian Water Company, there are no parties to the Judgment that extract water from Eagle Rock Basin. The safe yield of the basin, under 1964-65 conditions, was set at 70 acre-feet.

### Watermaster Service

Watermaster Service is administered by the California Department of Water Resources in accordance with Division 2, Part 4, of the California Water Code. Under Section 4025 of the Water Code, the Department is authorized to divide the State into watermaster service areas. Pursuant to Section 4026, such service areas are created from time to time as rights to water are ascertained and determined. Particularly where ground water is concerned, such rights are usually ascertained or determined by court decree. The first watermaster service area was formed in September 1929. Currently there are 19 such areas controlling surface water diversions in Northern California and four in Southern California controlling ground water use.

### Scope of Report

This is the Watermaster's second annual report to the Superior Court -- and to you as a water user interested in observing water conditions in ULARA. The purpose of this report is to describe water supply conditions in ULARA during the 1969-70 water year (October 1, 1969 through September 30, 1970).

Detailed comments have been prepared on the following topics: nature of water resources development; natural and artificial ground water recharge; use of imported and exported water; ground water extraction; and fluctuations of ground water table. In addition, a separate chapter has been devoted to the Watermaster's administration of the Judgment and the cost of watermaster service in the 1969-70 water year, together with the proposed budget for 1971-72.

### Advisory Board

Section X, Paragraph 5 of the ULARA Judgment established an Advisory Board for the purpose of advising the Watermaster in the administration of its duties. The duly appointed members of the Board as of September 30, 1970, are:

City of Los Angeles	Gerard A. Wyss (Vice Chairman) Melvin L. Blevins (Secretary)
City of Glendale	William H. Fell (Appt'd 9-16-70)
City of Burbank	Alan A. Capon (Appt'd 8-4-70)
City of San Fernando	Robert James (Chairman)
Crescenta Valley County Water District	Robert E. Blomquist (Appt'd 7-1-70)

During the 1969-70 water year the Advisory Board was convened by the Watermaster on December 1, 1969, and February 2, 1970. At the December meeting the following items were discussed: Annual Reports by parties for the water year 1968-69; gasoline contamination of ground water - vicinity of Forest Lawn, Glendale; Annual Report due March 1, 1970; and status of Watermaster parties in ULARA. At the February meeting the following was discussed: review of the Watermaster's 1968-69 Annual Report for the Upper Los Angeles River Area - due March 1, 1970; noncharge of pumping of Reseda Wells to the City of Los Angeles; review of Advisory Board's previous recommendation to the Watermaster "that Forest Lawn not be charged for the pumping from Forest Lawn Well No. 4"; and the 1970-71 Budget which was also approved by the Board.

#### Activities of the Watermaster

A major task of the Watermaster is that of monitoring ground water extractions. In accordance with the operational policies and procedures adopted by the Advisory Board, every ground water pumper reports on a monthly basis its ground water extractions on preprinted forms prepared and supplied by the Watermaster. This makes possible the updating of the water right accounts (Watermaster Water Production Summary) by electronic machines which compute the amount pumped during the previous month, the total amount pumped to the date of the summary during the current water year, and the amount that can be legally pumped during the remainder of the water year. A copy of the updated account is then mailed to the pumper so that it may more effectively manage its ground water right and use.

The watermaster field staff conducts a meter-testing program to verify ground water production reported by the parties, at the discretion of the Watermaster, or when requested by any party to the Judgment.

Defective or inaccurate water measuring devices must be repaired within 30 days after receiving written notice of the results of the test from the Watermaster. A number of ground water production tests were performed during 1969-70.

#### Summary of Operating Conditions

The 1969-70 water year was a below-average rainfall year. Rainfall in the valley decreased by 18.5 inches below the prior year and was about 3.5 inches below the LACFCD 85-year mean precipitation. As a result, spreading operations by the LACFCD decreased by 70% of the prior year's spreading. The control of ground water extractions imposed by the restricted pumping resulted in only 5.36 percent over the total allowed Restricted Pumping and an increase in imports of 12 percent over the prior year. Table 1 compares statistics for the last two water years on a ULARA-wide basis.

TABLE 1  
WATER YEAR SUMMARIES

Item	Water Year	
	1968-69	1969-70
Parties	28	28
Active pumpers	24	24
Active nonparties (within valley fill)	1	2
Restricted Pumping, in acre-feet	104,040	104,040
Watermaster expenses (fiscal year)	\$ 11,446.54	\$ 24,709.04
Watermaster expenses per acre-foot pumped	\$ 0.11	\$ 0.23
Valley rainfall, in inches	29	10.5
Spreading Operations, in acre-feet		
LACFCD	48,080	14,228
Los Angeles, City of	23,426	13,401
Extractions, in acre-feet	103,200	109,618
Imports, in acre-feet		
Colorado River water	34,787	36,890
Owens River water	343,160	385,608
Delivered to hill and mountain areas, in acre-feet	38,554	42,690
Exports, in acre-feet		
Owens River water	144,155	166,493
Sewage	108,846	108,527





## CHAPTER II. WATER SUPPLY CONDITIONS

The Upper Los Angeles River Area depends upon many sources of water to meet demands brought on by a fast growth in industry and a continuing population explosion. At present, water supply to ULARA is comprised of precipitation on the watershed which includes portions of the San Gabriel, Santa Monica, Verdugo, and Santa Susana Mountains; ground water that is in storage within the four basins; imports from the Mono Basin-Owens River system; and in the case of the San Fernando, Verdugo, and Eagle Rock Basins, import from the Colorado River. Soon water from Northern California will be made available through the facilities of the State Water Project. This chapter explores the sources, uses, and quality of current supplies and their effect on water conditions in ULARA.

### Precipitation

The Upper Los Angeles River Area has the climate of an interior coastal Valley and is hotter in the summer and wetter in the winter than the coastal areas which have a Mediterranean type climate.

Precipitation varies considerably throughout the ULARA, depending on the topography and the elevation. Mean seasonal precipitation varies from about 14 inches at the western end of the San Fernando Valley to 35 inches in the San Gabriel Mountains. On the average, approximately 80 percent of the annual rainfall occurs in the four winter months of December through March.

Quantities of precipitation on the valley floor and on the hill and mountain areas are evaluated separately. The valley floor is comprised of the three ground water basins, whereas the hill and mountain areas comprise the remaining areas in ULARA. Precipitation on the hill and mountain areas is evaluated to relate the runoff from the watersheds of Big Tujunga, Pacoima Creek, and Sycamore Canyon with the runoff records which are included in this report and also to evaluate the ground water recharge. The data used for the evaluation of precipitation as discussed above is supplied by the Los Angeles County Flood Control District (LACFCD). See Plate 2 for location of precipitation stations.

The 1969-70 water year experienced below average rainfall. In the San Gabriel Mountains, some stations received as little as 55 percent of normal. On the average, about 10.5 inches of rain fell on the valley floor, whereas the mountain area received approximately 14.3 inches of rainfall. The 29-year (1929-1957) average precipitation for the valley floor and mountain areas are 16.82 and 21.50 inches, respectively. Table 2, page 12 presents a record of rainfall at 22 key precipitation stations which were used and described in the Report of Referee.

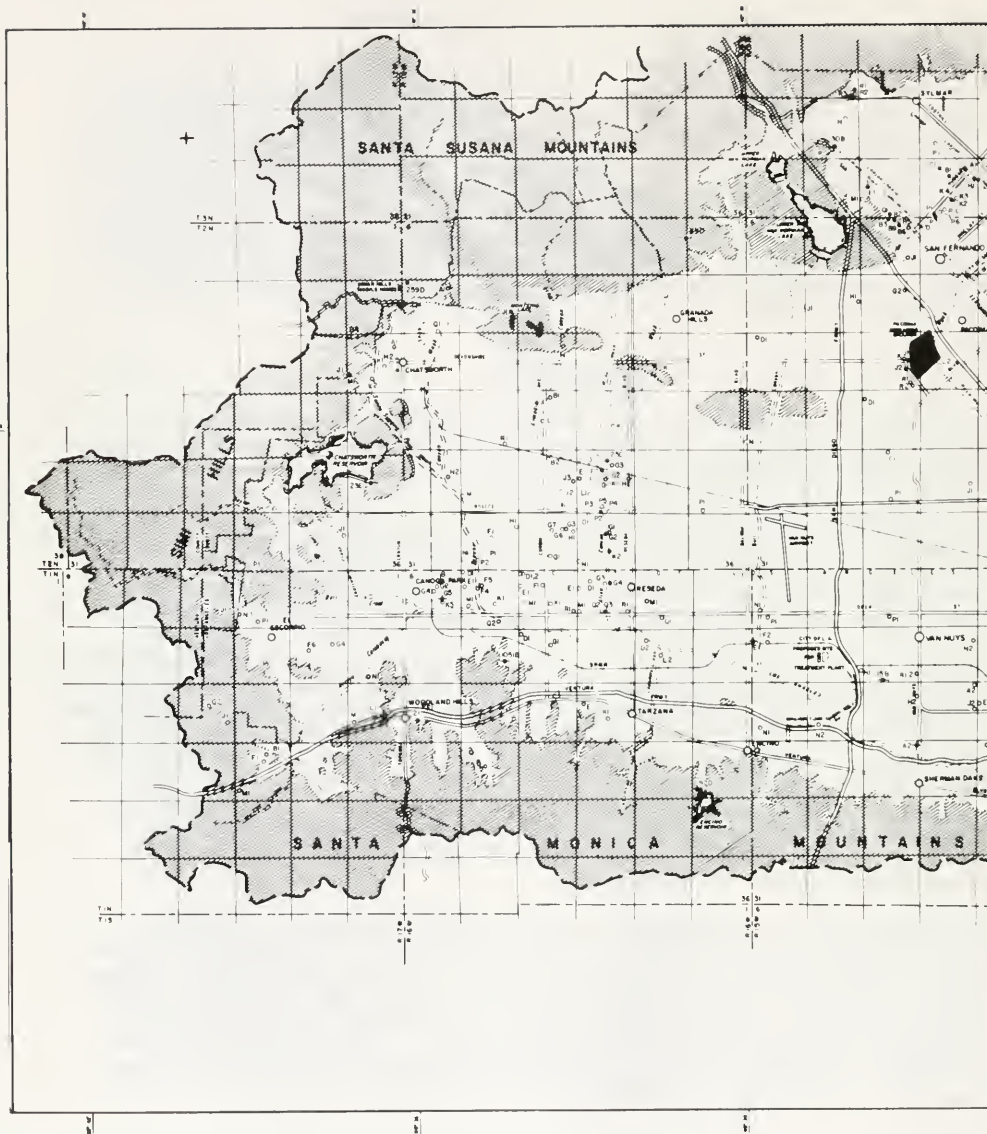






TABLE 2  
PRECIPITATION  
in inches

Station		:	:	:	1969-70
L.A.C.F.C. :		85-year	1968-69	:	Percent of
District :	Name	mean	precipi-	Precipi-	85-year
Number :			tation	tation	mean
12	Franklin Canyon	18.71	36.54 <sup>a/</sup>	10.52	56
13B	North Hollywood <sup>b/</sup>	16.90	30.68	9.40	56
14C	Roscoe-Merrill <sup>b/</sup>	14.61	24.81	8.76	60
15B	Van Nuys <sup>b/</sup>	15.20	28.16	10.72	71
17	Sepulveda Canyon	19.22	33.23	9.79	51
23E	Chatsworth Reservoir <sup>b/</sup>	14.12	25.05	10.59	75
25C	Northridge-Andrews <sup>b/</sup>	14.59	24.16	10.81	74
29D	Granada Pump Plant	17.10	28.67	12.96	76
30B	Sylmar <sup>b/</sup>	16.70	32.71	12.30	74
33A	Pacoima Dam	18.94	31.77 <sup>a/</sup>	14.59	77
47D	Clear Creek City School	32.41	77.21 <sup>a/</sup>	17.69	55
53D	Colby's Ranch	30.13	66.56	16.89	56
54C	Loomis Ranch-Alder Creek	20.90	38.80	13.13	63
210B	Brand Park	19.15	32.38	11.32	59
251C	La Crescenta <sup>b/</sup>	23.64	47.00 <sup>a/</sup>	12.43	53
259D	Chatsworth Patrol	17.77	27.36	12.21	69
295G	Glendale <sup>b/</sup>	17.93	32.75	9.72	54
364	Haines Canyon-Lower	24.30	49.64	14.26	59
419	Santa Clara Ridge	24.48	53.10	23.74	97
470	Tujunga-Mill Creek	17.63	30.89	11.30	64
705	Paradise Ranch-Alder Creek	20.70	41.39	11.02	53
1051B	Canoga Park <sup>b/</sup>	14.38	29.93 <sup>c/</sup>	11.69	81

a/ Partially estimated.

b/ Valley Station.

#### Runoff and Outflow from ULARA

The drainage area of ULARA is comprised of 329,137 acres of which 205,709 acres are hill and mountain areas. The drainage system in turn is made up of the Los Angeles River and its tributaries. The surface flow in the spring originates as storm runoff from the hill and mountain areas; the storm runoff from the impervious areas of the valley floor; operational spills of imported water; industrial and sanitary waste discharge; and rising water.

Urbanization of the area has rapidly increased the flow discharge rates in much of ULARA and as such it is important to keep abreast of these changes to nature and its effect on the ground water basins.

A number of stream gaging stations are maintained throughout ULARA either by the LACFCD or the USGS. The Watermaster has selected six key gaging stations which in effect record major runoff from the hydrologic areas within ULARA.

The records presented herein will keep the parties apprised as to the magnitude of runoff from these various areas. The stations selected for this purpose are:

1. Station 57C; registers all surface outflow from ULARA.
2. Station 118B; registers all releases from Pacoima Dam which originate in Pacoima Canyon. Runoff below this point flows to the Lopez and Pacoima Spreading Grounds and on down to the Los Angeles River.
3. Station 168; registers all releases from Big Tujunga Dam which collects runoff from Tujunga Canyon northeasterly of the dam. Runoff below this point flows to Hansen Dam.
4. Station 252; registers flow from Verdugo Canyon plus flows from Haines, Dunsuir, and Pickens Canyons.
5. Station E-285; registers flow from the westerly slopes of Verdugo Mountains and some flow east of Lankershim Blvd. It also records any releases of reclaimed waste water discharged by the City of Burbank.
6. Station 300; registers all flow west of Lankershim Blvd. plus outflow from Hansen Dam that is not spread. These records also include releases from Sepulveda Dam, which may include extractions from Reseda wells.

The location of these key gaging stations are shown on Plate 2. The mean daily discharge rates for these six gaging stations during 1969-70 are summarized in Appendix C. In addition, Table 3 summarizes the monthly flows for each of the gaging stations and compares the current water year (1969-70) with the 1968-69 water year which was an extremely wet year as evidenced by the runoff quantities.

TABLE 3  
MONTHLY RUNOFF AT SELECTED GAGING STATIONS  
In acre-feet

Station	Water Year	Month												Total
		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
57C-R	1968-69	1160	990	2710	131,600	122,400	30,890	7850	2140	3130	3290	1250	1030	307,400
(Los Angeles River)	1969-70	993	6280	1020	6,010	14,790	13,090	1060	824	1000	750	1070	635	47,520
E252-R	1968-69	175	177	323	9710	8680	3,280	1470	586	476	471	452	322	26,120
(Verdugo Channel)	1969-70	300	339	196	486	1400	1,360	231	264	407	501	427	180	6,090
285-R	1968-69	620	477	683	6010	5650	844	577	577	574	570	577	479	17,640
(Burbank Storm Drain)	1969-70	438	696	455	682	981	1,130	399	441	471	479	457	456	7,080
300-R	1968-69	929	1020	2200	106,600	105,700	29,300	4030	1460	1670	2190	1060	685	256,800
(L.A. River at Tujunga Ave.)	1969-70	771	6850	970	4,230	11,240	10,160	928	1160	1020	964	918	869	40,080
168-R	1968-69	26	+	+	27,250	41,430	20,450	7450	4090	2590	1730	804	612	106,432
(Big Tujunga Dam)	1969-70	624	918	844	920	1,030	4,490	1340	685	388	165	112	103	11,620
118B-R	1968-69	133	+	0	6,780	1,120	9,380	4030	1580	737	347	138	151	24,390
(Pacoima Dam)	1969-70	9	3	12	20	165	379	201	213	222	998	47	41	2,310

+ Denotes insignificant flow.

At the request of the Advisory Board the Watermaster has attempted to separate the surface flow of the Los Angeles River at gaging station F-57C as to the sources, i.e., storm runoff from precipitation, Owens River water, rising water, industrial waste, and reclaimed waste water discharges. The Watermaster utilized the procedures outlined in the Report of Referee for estimating the approximate flow rates and sources of water passing gaging station F-57C. Following is a summary of that study:

Separation of Surface Flow at Station F-57C  
In acre-feet

Period	Base low flow		Surface runoff		Total measured outflow
	Rising	Waste	Owens River	Net storm	
	water	discharge	water	runoff	
1969-70	4,180	6,565	0	36,775	47,520
29-year average	6,810	770	1,580	30,790	39,940
1929-57					

Ground Water Recharge

Local precipitation can have a marked influence on the ground water supply or water in storage. However, there is a wide variation in the annual amount of runoff as a result of changes in both precipitation and retentive characteristics of the watershed.

ULARA, like other areas in Southern California, is experiencing an accelerated urban development which continuously increases the land area paved with asphalt and concrete. Hence, much of the rainfall is being collected and routed into paved channels which discharge into the Los Angeles River and is then carried out of the basin. Plate 2 depicts those channels which are now lined, within ULARA.

As was mentioned in the previous paragraph, much of the valley floor is covered by impervious materials and is causing the water to run off into lined channels rather than to percolate into the ground water basin. Fortunately, Pacoima Dam and Hansen Dam, which were originally built by the U.S. Corps of Engineers for flood protection, are currently being utilized to regulate storm flows for the purpose of recapturing the flow in spreading basins operated by the Los Angeles County Flood Control District (LACFCD) as well as the City of Los Angeles.

Currently, the LACFCD is operating 4 spreading basins; they are: Bradford, Hansen, Lopez, and Pacoima Spreading Grounds. The City of Los Angeles, in turn, operates the Tujunga and Headworks Spreading Grounds. Plate 2 shows the location of these spreading basins. The spreading grounds operated by the LACFCD are utilized for spreading native water, whereas the spreading grounds operated by the City of Los Angeles are utilized to spread Owens River water, spillage from the Chatsworth Reservoir, ground water effluent, and the discharge from the Reseda wells. Table 4 summarizes the spreading operations for the water year 1969-70.



TABLE 4

SPREADING OPERATIONS  
In acre-feet

Month	Native water spread by Los Angeles :				Water spread by City of Los Angeles				
	County Flood Control District :				Tujunga Spreading Grounds :		Headworks Spreading Grounds		
	Spreading Basins :				Spill from :		Ground water		
	Branford :	Hansen :	Lopez :	Pacoima :	Native water :	Owens River :	Chatsworth :	Reseda :	effluent in <sup>a/</sup>
					water :		Reservoir :	Wells :	L. A. River
Oct. 1969	0	1770	0	0	0	0	0	83	876
Nov.	131	1519	0	0	0	0	0	109	587
Dec.	2	1434	0	0	0	0	0	168	883
Jan. 1970	81	1387	0	102	0	0	0	150	692
Feb.	227	1212	0	463	0	0	0	128	538
Mar.	228	3218	0	294	2152	0	0	49	750
Apr.	0	743	0	0	228	0	0	146	639
May	0	644	0	0	0	0	0	192	1038
June	5	0	0	7	0	0	0	182	895
July	0	0	0	711	0	0	0	160	836
Aug.	0	0	0	0	0	0	0	106	749
Sept.	0	0	0	0	0	0	0	188	877
Totals	724	11,927	0	1577	2380	0	0	1661	9360

a/ Includes industrial discharge, ground water effluent, and surface runoff diverted from Los Angeles River to Headworks Spreading Grounds.

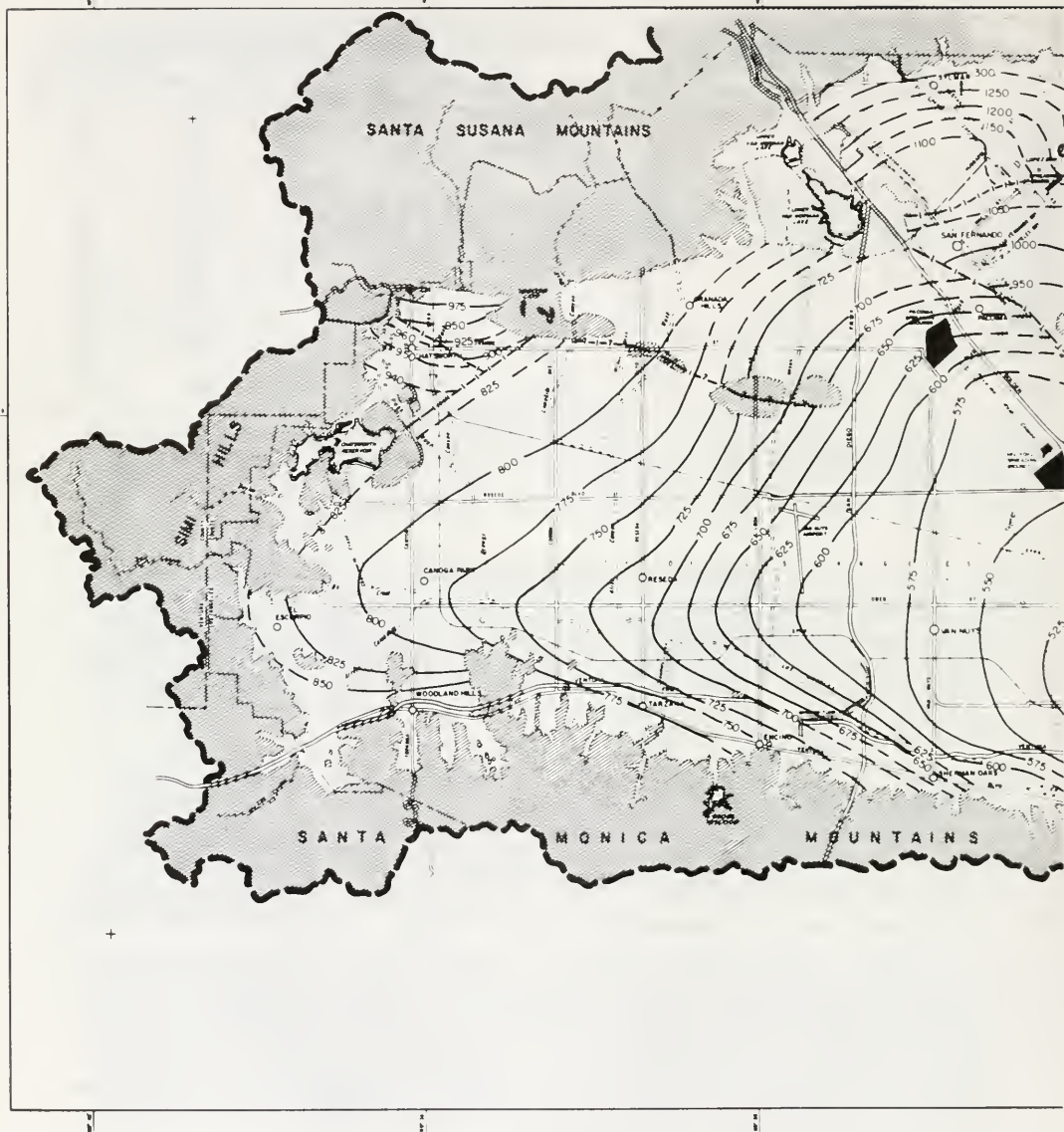
Ground Water Table Elevations

During the 1969-70 water year, the Watermaster collected and processed data to determine prevailing ground water conditions in ULARA. The Watermaster collected ground water contour maps from the Los Angeles County Flood Control District and the City of Los Angeles in order to present the ground water table elevations for the spring and fall of 1970 and the change between the fall of 1969 and fall of 1970.

Plate 3 depicts ground water conditions during the spring of 1970, while Plate 4 depicts the fall 1970 ground water levels. With the exception of the areas of Sylmar, Chatsworth, and along the foothills of Santa Monica Mountains, the Watermaster utilized contour lines submitted by LACFCD for these plates. The City's contours for Sylmar, Chatsworth, and Santa Monica foothills were used because they presented lines of equal elevation of ground water that were more representative of the Report of Referee's interpretations.

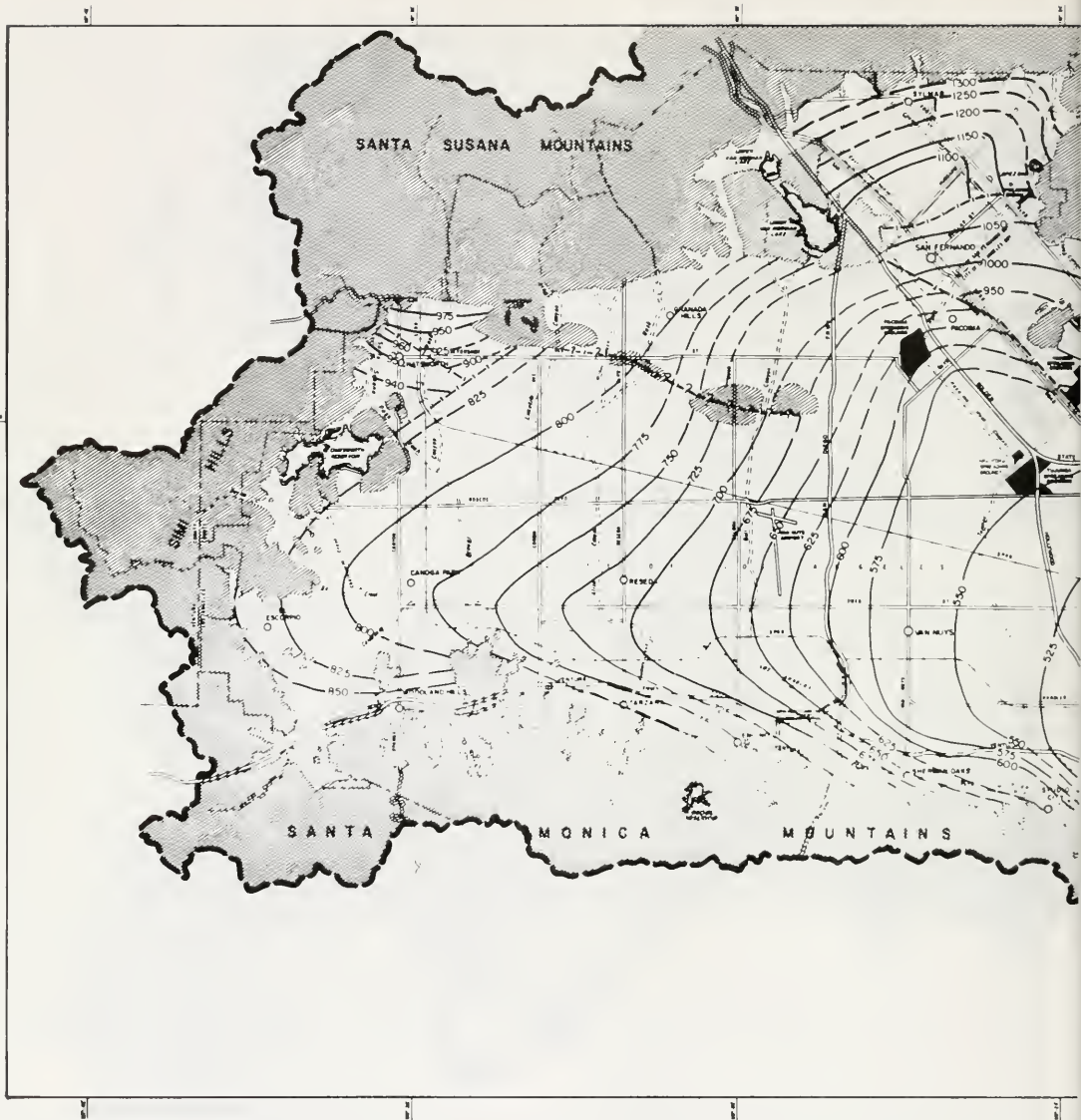
The fall of 1969 to fall of 1970 as presented in Plate 5 indicates the effects of spreading and ground water extractions. The areas around Hansen and Tujunga spreading basins show a drop of water levels as expected. A curtailment of ground water extractions is shown as a rise in water levels in and around the City of Los Angeles' Pollock wells which dropped in production by 5,000 acre-feet; the City's Mission wells which dropped by 1,000 acre-feet in production; and the City's Crystal Springs and Glendale's Grandview wells which decreased slightly in production.

In addition to the plates, Figures 1 and 2 depict the water levels at key wells located within ULARA. Plate 2 shows the location of key wells.



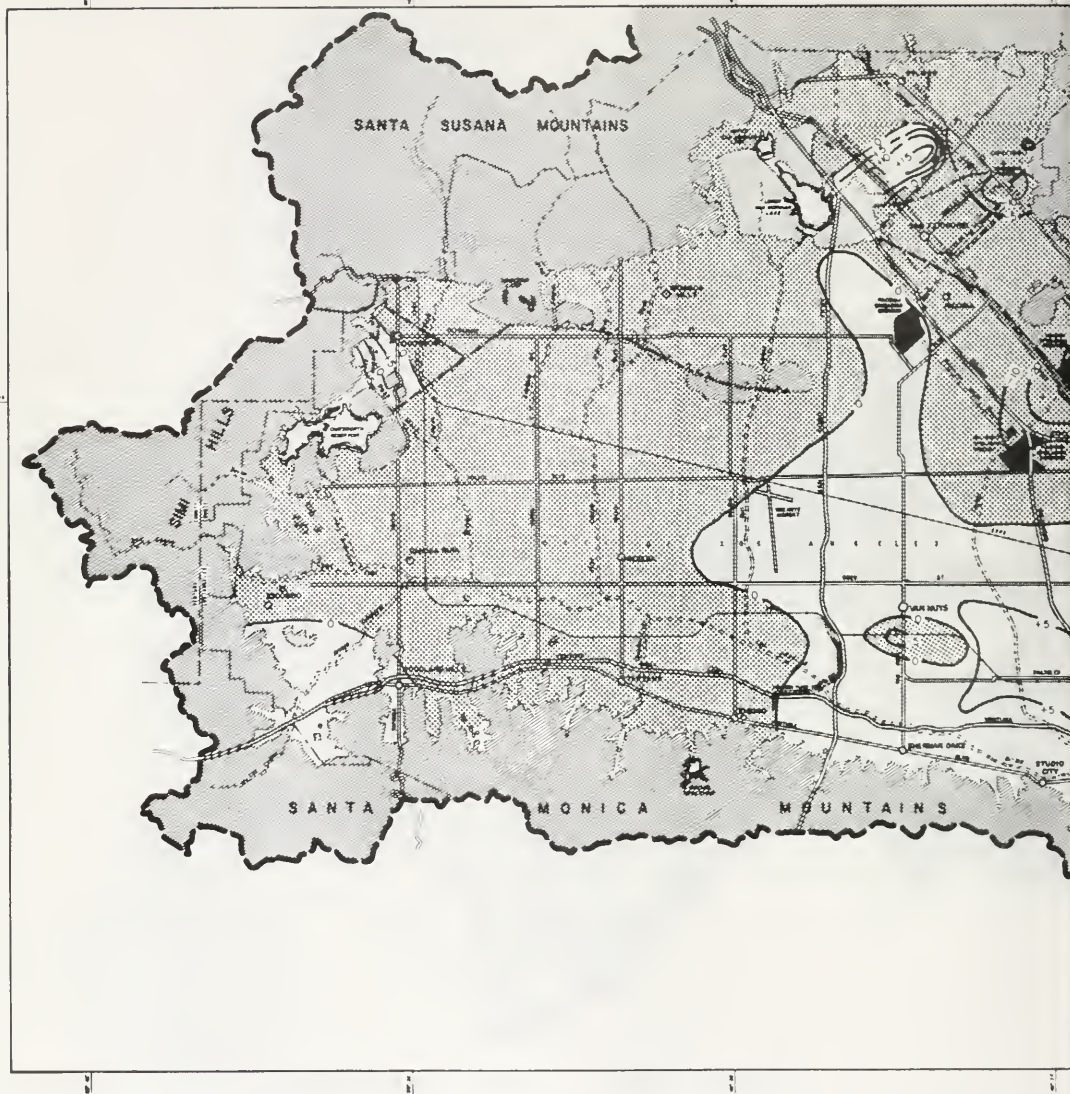


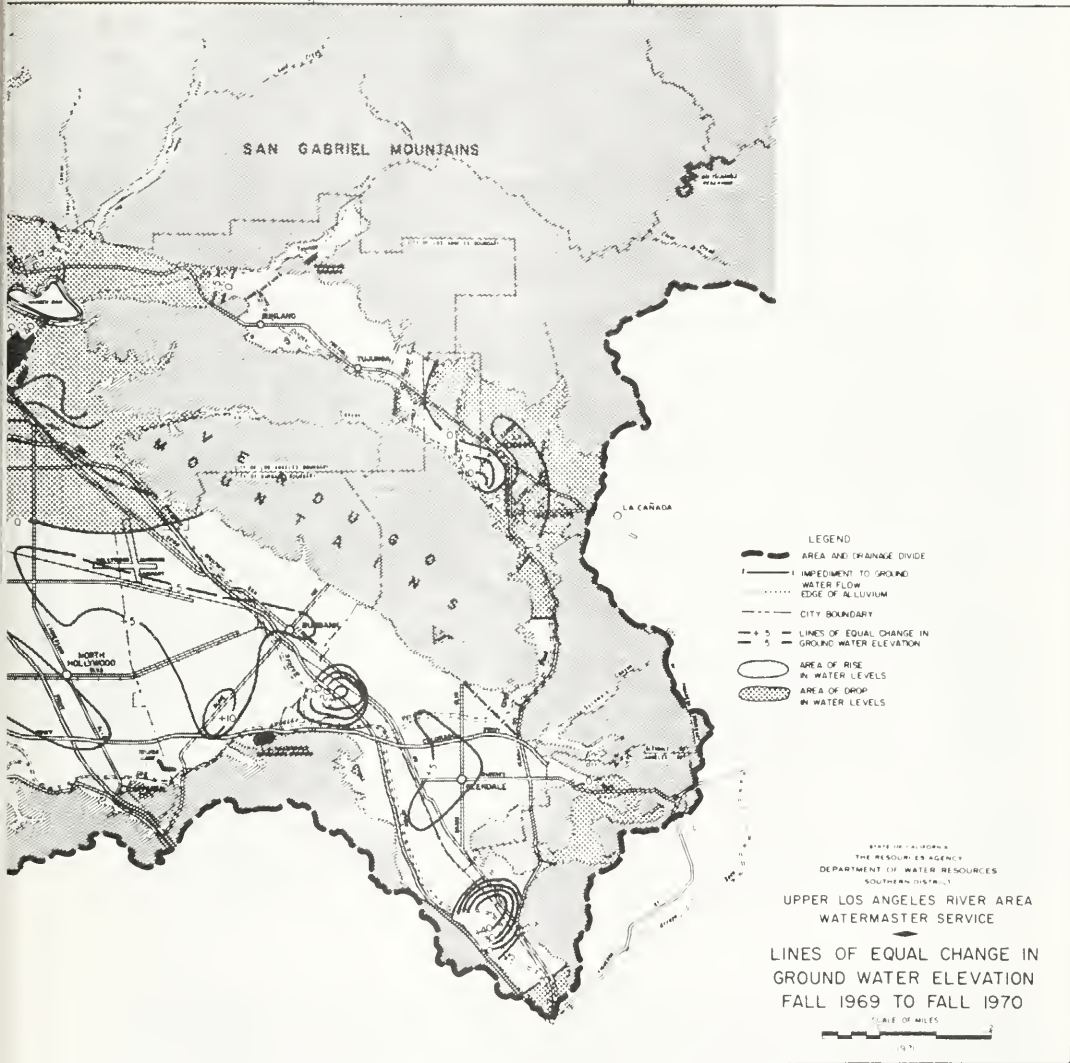














# SAN FERNANDO BASIN

WATER LEVEL ELEVATION AT WELLS IN FEET - U.S.G. DATUM

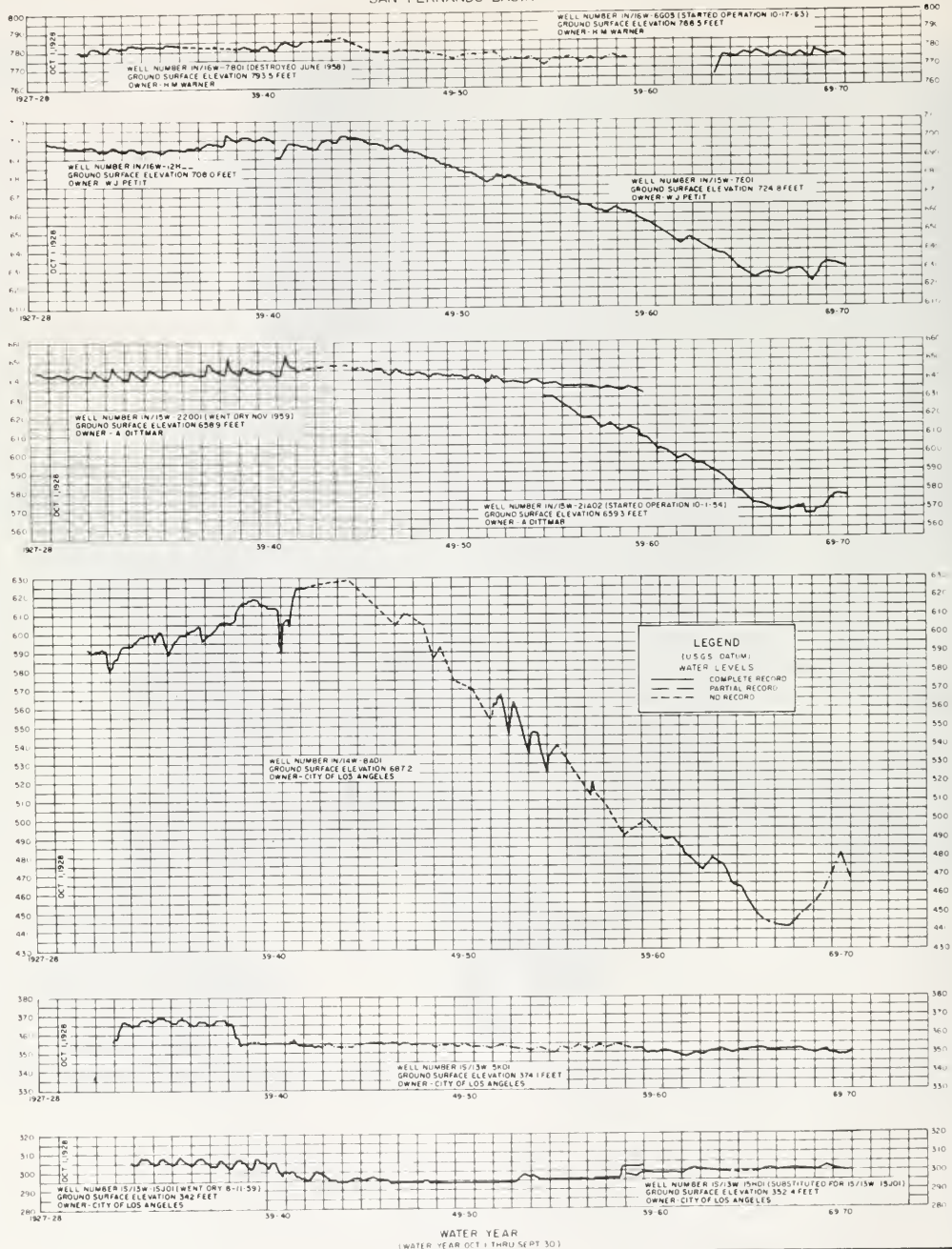
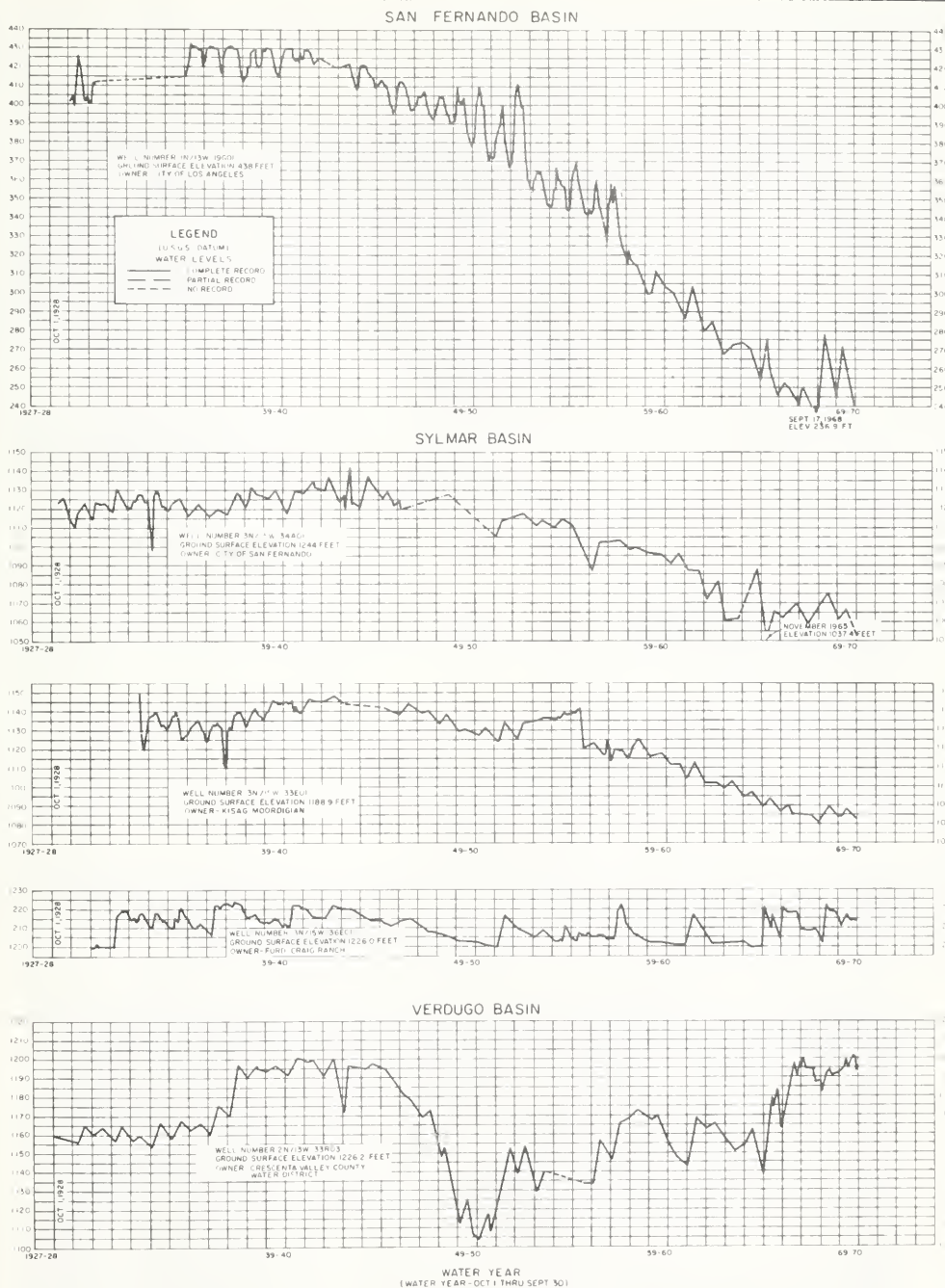


Figure 1—FLUCTUATION OF WATER LEVEL ELEVATION AT WELLS  
IN THE SAN FERNANDO BASIN



**Figure 2 - FLUCTUATION OF WATER LEVEL ELEVATION AT WELLS  
 IN THE SAN FERNANDO, SYLMAR AND VERDUGO BASINS**

### Waste Water Reclamation

The reclamation of waste water can provide a relatively economical source of water for irrigation, industrial, recreational, and ultimately domestic use. Four waste water treatment plants are in operation in ULARA; the Los Angeles-Glendale Wastewater Reclamation Plant, currently being worked on by Koebig and Koebig Inc., Consulting Engineers, is in the final design stage with a scheduled on-line date of January 1, 1973; and the City of Los Angeles has signed a lease for 88 acres in the Sepulveda Flood Control Basin on which it is planned to construct another waste water treatment and reclamation plant. The four existing treatment plants and their production for 1969-70 are:

<u>Plant</u>	<u>Quantity treated, in acre-feet</u>	<u>Disposal</u>
City of Burbank (S.F. Basin)	5629	1084 acre-feet cooling tower balance into Burbank Channel to L. A. River
City of L. A. Valley Settling Basin (S.F. Basin)	594	5 acre-feet irrigation-balance into city sewer.
Crescenta Valley County Water District (Verdugo Basin)	106	Land irrigation
Indian Hills Mobile Homes (S.F. Basin)	15	Land irrigation

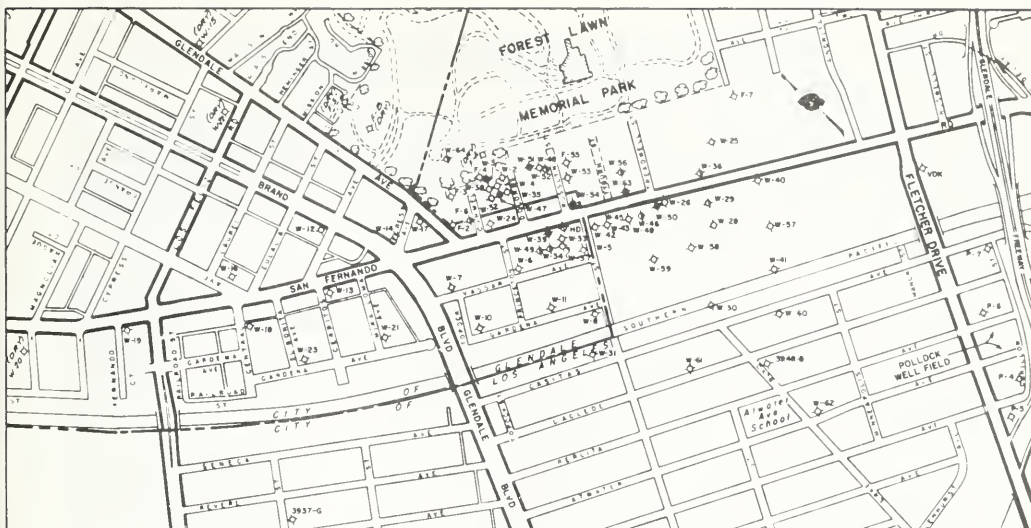
Location of these facilities are shown on Plate 2.

### Water Quality

During the 1969-70 water year, progress was made toward abating gasoline pollution near Forest Lawn Cemetery. The history of this major water quality problem was described in the 1968-69 Watermaster report.

The Western Oil and Gas Association (WOGA) has continued its efforts to abate the pollution. The California Regional Water Quality Control Board, Los Angeles Region, and the State Water Resources Control Board are playing leading roles to insure effective and expeditious abatement. The Department of Water Resources has advised the Boards regarding the technical aspects of abatement. The City of Los Angeles Department of Water and Power (LADWP) has maintained an effective monitoring program in the area of gasoline pollution.

As of October 1, 1970, WOGA completed drilling 64 skimming, containment, and observation wells (Figure 3). Based on the October 1, 1970, LADWP monitoring, only six wells contained free gasoline. As a result of the drilling, new geologic and hydraulic information has identified two separate aquifers; an upper water table or perched aquifer, and a lower confined aquifer. Gasoline pollution has been found only in the top aquifer. Accordingly, all the wells drilled for the abatement were only perforated in the upper aquifer to avoid possible pollution of the lower aquifer.



#### LEGEND

##### OWNERSHIP

- ◊ W-12 WOGA WELLS
- ◊ F-3 FOREST LAWN WELLS
- ◊ P-7 LADWP POLLOCK WELLS
- ◊ HD HEALY-DEBURRING WELL
- ◊ VOK VAN DE KAMP WELL
- ◊ 3948B LADWP OBSERVATION WELL

##### CONDITION OR STATUS

- FREE GASOLINE
- ⊙ GASOLINE DOOR
- NO GASOLINE

AFTER LOS ANGELES DEPARTMENT OF WATER AND POWER,  
WELL LOCATIONS AND GASOLINE OCCURRENCE (OCTOBER 1, 1970)

Figure 3- GASOLINE POLLUTION-FOREST LAWN, GLENDALE, LOS ANGELES

DEPARTMENT OF WATER RESOURCES, SOUTHERN DISTRICT, 1971

In April 1970, Forest Lawn Memorial Park (FLMP) modified its Well FL-4 to draw water from only the lower aquifer. By modifying the well, the waste of water has been minimized. The well is now producing about 400 gpm.

To contain the gasoline and prevent its migration toward the LADWP's Pollock Well Field, WOGA found it necessary to pump Well W-58 at rates from 120 to 208 gpm in September and October 1970. However, WOGA plans to discontinue pumping Well W-58 and pump Well W-63 instead at a rate of about 180 gpm. This well, being closer to wells containing free gasoline, serves two purposes: it creates a "sink" and removes gasoline.



Water pumped from Well W-63 is transported through the Mobil Oil Company's San Fernando Pipeline to the Company's treatment facilities in the City of Vernon and is then discharged to the Los Angeles River.

Gasoline recovery has decreased considerably since October 1969. So far about 50,000 gallons of free gasoline have been removed from the area. In October 1970, 523 gallons of free gasoline were separated. The reason given by WOGA's consultants for the reduction in quantity is that when water levels decline, much of the gasoline remains hung up (as pellicular gasoline) in the interstices of the soil above.

The troublesome growth of bacteria that thrives on gasoline is evident in the area. WOGA, in addition to investigating the behavior of pellicular gasoline under various regimes of rising and falling water levels, is also investigating gasoline thriving bacteria. Bacterial slimes that clog well perforations in the gasoline-polluted area have been successfully combated by repeated chlorination, surging, and bailing.

WOGA plans to continue pumping Well W-63 and to skim all wells containing free gasoline. It also plans to drill and obtain a core close to a well producing free gasoline to test for bacteria and gasoline occurrence in the unsaturated zone.

The Watermaster is currently monitoring the extraction of water at the various sites and is requesting WOGA to meter and report monthly all ground water extractions. Further details with respect to the Watermaster's recommendations regarding this problem are contained in Chapter IV.



### CHAPTER III. WATER USE AND DISPOSAL

Water delivered for use in ULARA is either imported water, local ground water, local surface diversions, or a mixture, depending on the area and water system operation. During the 1969-70 water year, water purveyors in ULARA served approximately 364,900 acre-feet of water to their customers. Of this total, approximately 109,600 acre-feet were extracted and the remaining 255,300 acre-feet were imported to ULARA.

The adjudication of ground water rights in ULARA restricted all ground water extractions effective October 1, 1968. On that date, ground water extractions were restricted to approximately 104,000 acre-feet per water year. This amounted to a reduction of approximately 50,000 acre-feet below the previous 6 years average. The restriction on the ground water extractions together with the below average rainfall has resulted in a record importation of water to ULARA to make up the difference in 1969-70.

Figure 4 graphically illustrates the annual ground water extractions and total water imported to ULARA beginning with 1944-45 water year. Note the change during years 1968-69 and 1969-70.

It can also be noted that for the 10 years before "Restricted Pumping" imports exceeded extractions by 50,000 to 60,000 acre-feet per year and that for the two water years 1968-69-1969-70, the difference jumped to between 120,000 to 140,000 acre-feet. Due to restricted pumping in ULARA, any substantial increase in water demand in the future will show in an increase of imports only.

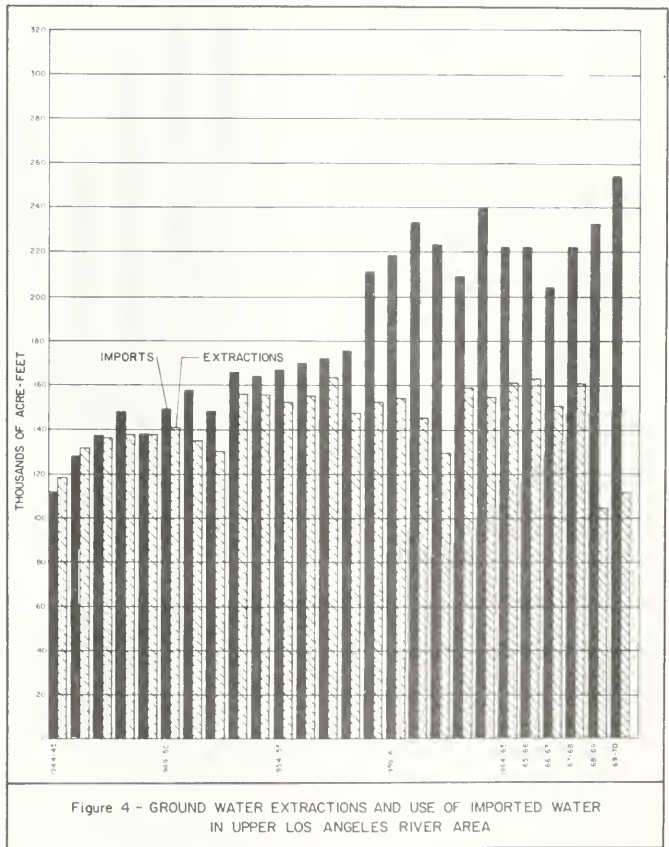


Figure 5 provides another graphical analysis of the monthly relationship between rainfall, ground water extractions, and imported supply. This graph is representative of the entire ULARA and not any specific ground water basin within ULARA. The precipitation values were obtained from those stations that are located on the valley floor (See Table 2.)

### Ground Water Extractions

By letter dated April 26, 1968, the Watermaster informed all parties that were known to be active, that ground water extractions within ULARA would be reduced and controlled by the Watermaster in accordance with the Judgment. The ULARA Judgment limits the amount of ground water each party can extract annually from each of the separate basins to an amount referred to as "Restricted Pumping". Table 5 presents a balance sheet which summarizes each party's water account by listing its "Restricted Pumping" (see Appendix A for any changes); allowable carryover from 1968-69; any additional allowable pumping as the results of a water right assignment; amount of ground water extracted during the 1969-70 water year; and the amount that can be carried forward to the succeeding water year.

In order to provide flexibility in the control of ground water extractions, the Judgment contains various provisions which allow parties to carry over into the succeeding water year a portion of their unused water right and, in some cases, to overextract. This flexibility clause was provided to assist the parties in meeting unforeseen emergencies in water demands. First of all, one provision allows parties to carry over from one water year to another any unused "Restricted Pumping" up to an amount not to exceed 10 percent of that party's "Restricted Pumping". The flexibility clause also allows parties to overextract up to an amount equal to 10 percent of its "Restricted Pumping". However, any overextraction will be deducted from the "Restricted Pumping" in the succeeding water year. Chapter IV contains additional information on this provision.

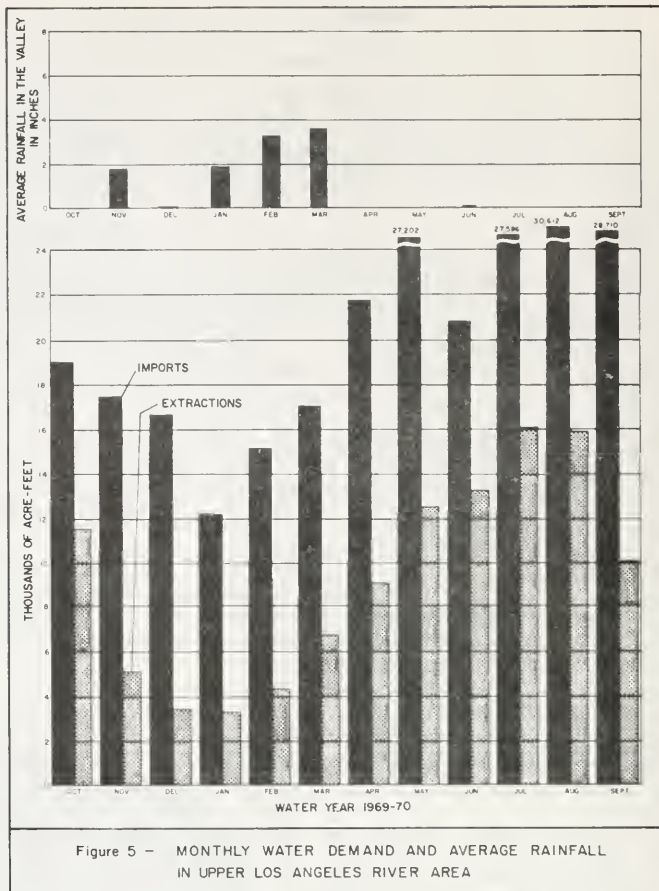


TABLE 5  
RESTRICTED PUMPING AND QUANTITIES EXTRACTED AND ASSIGNED  
In acre-feet

Party	(1) Restricted Pumping	(2) Allowable carryover from 1968-69	(3) Assign- ments in Restricted Pumping <sup>a</sup>	(4) Allowable extraction 1969-70 (1)-(2)+(3)=4	(5) Amount Extracted	(6) Balance (4)-(5)=(6)	(7) Allowable carryover into 1970-71
<b>SAN FERNANDO BASIN</b>							
Bartholomaeus, William O.	15.00	+ 1.50	- 16.50	0.00	0.00	0.00	0.00
Burbank, City of	13,649.00	- 5.42	+ 204.90	+ 13,848.48	-13,845.81	+ 2.67	+ 2.67
California Materials Company	0.00	0.00	+ 400.00 <sup>b</sup>	+ 400.00	- 353.46	+ 46.54 <sup>c</sup>	0.00
Consolidated Rock Products Company	0.00	0.00	+ 1,500.00 <sup>b</sup>	+ 1,500.00	- 1,580.58	+ 80.58 <sup>c</sup>	0.00
Forest Lawn Memorial Park Assoc.	814.00	+ 81.40	- 288.00	+ 607.40	- 591.16	+ 16.24	+ 16.24
Glendale, City of	12,405.00	+ 26.00	+ 100.00	+ 12,531.00	-12,145.74	+ 385.26	+ 385.26
Harper, Cecilia DeMille	0.00	- 28.31	+ 60.00	+ 31.69	- 38.38	- 6.69	- 6.69
Livingston-Graham, Inc.	0.00	0.00	+ 350.00 <sup>b</sup>	+ 350.00	- 521.13	+ 171.13 <sup>c</sup>	0.00
Lockheed Aircraft Corporation	239.00	+ 23.90	- 262.90	0.00	0.00	0.00	0.00
Los Angeles, City of	63,257.00	-565.20	- 3,950.00 <sup>b</sup>	+ 58,741.80	-64,591.57 <sup>d</sup>	-5,849.77	-6,581.37 <sup>e</sup>
McCabe, Celeste Louise	1.00	+ 0.10	0.00	+ 1.10	0.00	+ 1.10	+ 0.10
Mena, John and Barbara	0.00	- 0.96	0.00	- 0.96	- 0.96	- 1.92	- 1.92
Monterita Lake Association	0.00	- 7.15	0.00	- 7.15	- 6.31	- 13.46	- 13.46
Riverwood Ranch Mutual Water Co.	0.00	- 7.24	+ 32.00	+ 24.76	- 30.63	- 5.87	- 5.87
Sears, Roebuck and Company	0.00	0.00	+ 100.00 <sup>b</sup>	+ 100.00	- 383.73	+ 283.73 <sup>c</sup>	0.00
Southern Service Company, Ltd.	0.00	- 93.82	+ 120.00	+ 26.18	- 70.55	- 44.37	- 44.37
Sportsmen's Lodge, Inc.	0.00	-110.04	+ 24.00	- 86.04	- 33.01	- 119.05	- 119.05
Toluca Lake Property Owners' Association	23.00	- 7.40	+ 16.50	+ 32.10	- 39.00	- 6.90	- 6.90
Valhalla Memorial Park	184.00	+ 17.44	+ 20.00	+ 221.44	- 203.61	+ 17.83	+ 17.83
Van de Kamp's Holland Dutch Bakers, Inc.	93.00	+ 9.30	- 28.00	+ 74.30	- 2.77	+ 71.53	+ 6.50
Walt Disney Productions	0.00	0.00	+ 1,600.00 <sup>b</sup>	+ 1,600.00	- 1,842.70	+ 242.70 <sup>c</sup>	0.00
Wright, J. Marion and Alice M.	0.00	- 7.04	+ 18.00	+ 10.96	- 9.28	+ 1.68	+ 1.68
Subtotals	90,680.00	-672.94	0.00	+ 90,007.06	-96,290.38	-6,283.32	-6,349.35
<b>SYLMAR BASIN</b>							
Boise Cascade Building Company	609.00	+ 60.90	0.00	+ 669.90	- 19.17	+ 650.73	+ 60.90
Brown, Charles T.	0.00	- 5.31	0.00	- 5.31	- 6.99	- 12.30	- 12.30
Church of Jesus Christ of the Latter Day Saints	0.00	- 318.84	0.00 <sup>f</sup>	- 318.84	- 272.87	- 591.71	- 591.71
Los Angeles, City of	2,818.00	+336.11	- 300.00 <sup>b</sup>	+ 2,854.11	- 2,843.90	+ 10.21	+ 10.21
Moordigian, Kisag	46.00	+ 0.60	- 40.00 <sup>b</sup>	+ 6.60	0.00	+ 6.60	+ 0.60
San Fernando, City of	2,737.00	0.00	+ 340.00 <sup>b</sup>	+ 3,077.00	- 3,268.93	- 191.93	- 191.93
Subtotals	6,210.00	+ 73.46	0.00	+ 6,283.46	- 6,411.86	- 128.40	- 724.23
<b>VERDUGO BASIN</b>							
Crescenta Valley County Water District	3,294.00	+ 6.64	0.00	+ 3,300.64	- 3,339.75	- 39.11	- 39.11
Glendale, City of	3,856.00	+385.60	0.00	+ 4,241.60	- 3,575.97	+ 665.63	+ 385.60
Subtotals	7,150.00	+392.24	0.00	+ 7,542.24	- 6,915.72	+ 626.52	+ 346.49
ULARA TOTALS	104,040.00	-207.24	0.00	+103,832.76	-109,617.96	-5,785.20	-6,727.09

- a/ REFER TO TABLE 8 AND APPENDIX A FOR INFORMATION CONCERNING ASSIGNMENTS OF "RESTRICTED PUMPING" OR PRIOR OWNERSHIP.
- b/ REDUCTION IN CITY OF LOS ANGELES EXTRACTION PURSUANT TO SEPARATE STIPULATED JUDGMENT.
- c/ REVERTS TO CITY OF LOS ANGELES AS A CARRYOVER.
- d/ EXCLUDES EXTRACTIONS FROM RESEDA WELLS WHICH TOTALLED 1,661,000 ACRE-FEET.
- e/ INCLUDES YEAR-END BALANCE OF PARTIES TO STIPULATED JUDGMENTS.
- f/ REDUCTION IN CITY OF LOS ANGELES EXTRACTION PURSUANT TO PHYSICAL SOLUTION + SYLMAR BASIN.
- g/ WATER USE LICENSE TO CITY OF SAN FERNANDO.
- h/ INCLUDES ASSIGNMENTS PURSUANT TO FOOTNOTES (f) AND (g).

The metered ground water production from each active well is listed by basin and by party in Appendix B, Table B-1. This tabulation presents the total ground water production as reported by each party. Plates 6 and 7 depict the service area wherein each party delivers its water supply.

In addition to the flexibility clause, the City of San Fernando is allowed, by the Judgment, to exceed its assigned "Restricted Pumping" in Sylmar Basin. The additional allowance for the City of San Fernando is described in the Judgment as "Physical Solution-Sylmar Basin". This provision allows the City of San Fernando to extract up to 850 acre-feet of water per year in addition to the amount that it has received under its "Restricted Pumping". If the City of San Fernando takes, diverts, or extracts water in addition to its "Restricted Pumping", it must immediately notify the City of Los Angeles and the Watermaster in writing, and the City of Los Angeles must reduce its extractions in an amount equal to the amount that the City of San Fernando has exceeded its rights. Chapter IV describes the 1969-70 operation.

The Judgment, in Section IV, also allows various parties to divert and extract water from the San Fernando Basin in accordance with the terms and conditions of the stipulated Judgments between the City of Los Angeles and said parties (Case No. 650,079). The City of Los Angeles, in turn, shall deduct from its "Restricted Pumping" for each year, the aggregate amount of water extracted pursuant to the separate stipulated Judgments.

At the commencement of each water year, the City of Los Angeles advises the Watermaster of the estimated amount of water each party to the stipulated Judgments will pump during the water year (see Appendix A). The City then reduces its extractions in the San Fernando Basin in an amount equal to the estimates. For each subsequent year, the City of Los Angeles will reduce its extractions by the amount of water that said stipulated parties' extractions exceeded the estimates for the preceding year. Should the stipulated parties' extractions be less than the estimate for that year, the City of Los Angeles may increase its extractions by that amount in the next succeeding year.

#### Extractions by Nonparties

In order to keep the parties and the Court apprised of all the ground water extractions within ULARA, the Watermaster has attempted to seek and collect information on nonparty ground water extractions. A nonparty is an entity which was not named in the ULARA water right suit. These nonparties and parties which were dismissed by the court do not come under the jurisdiction of the Watermaster.

To the best of the Watermaster's knowledge, and information on hand, the Western Oil and Gas Association and The Metropolitan Water District of Southern California are the only nonparties extracting ground water within ULARA. The Watermaster has approved these operations which are necessary for the control of gasoline pollution at Forest Lawn and the construction of the San Fernando Tunnel of the Foothill Feeder.



No report on ground water extractions will be made as to the parties dismissed from the action, such as Glenhaven Memorial Park, Incorporated, Los Angeles County Waterworks District No. 21, etc., which are still active pumpers in the hill and mountain areas of ULARA.

Ground water extracted by The Metropolitan Water District of Southern California (MWD) and Western Oil and Gas Association is shown in the following tabulation.

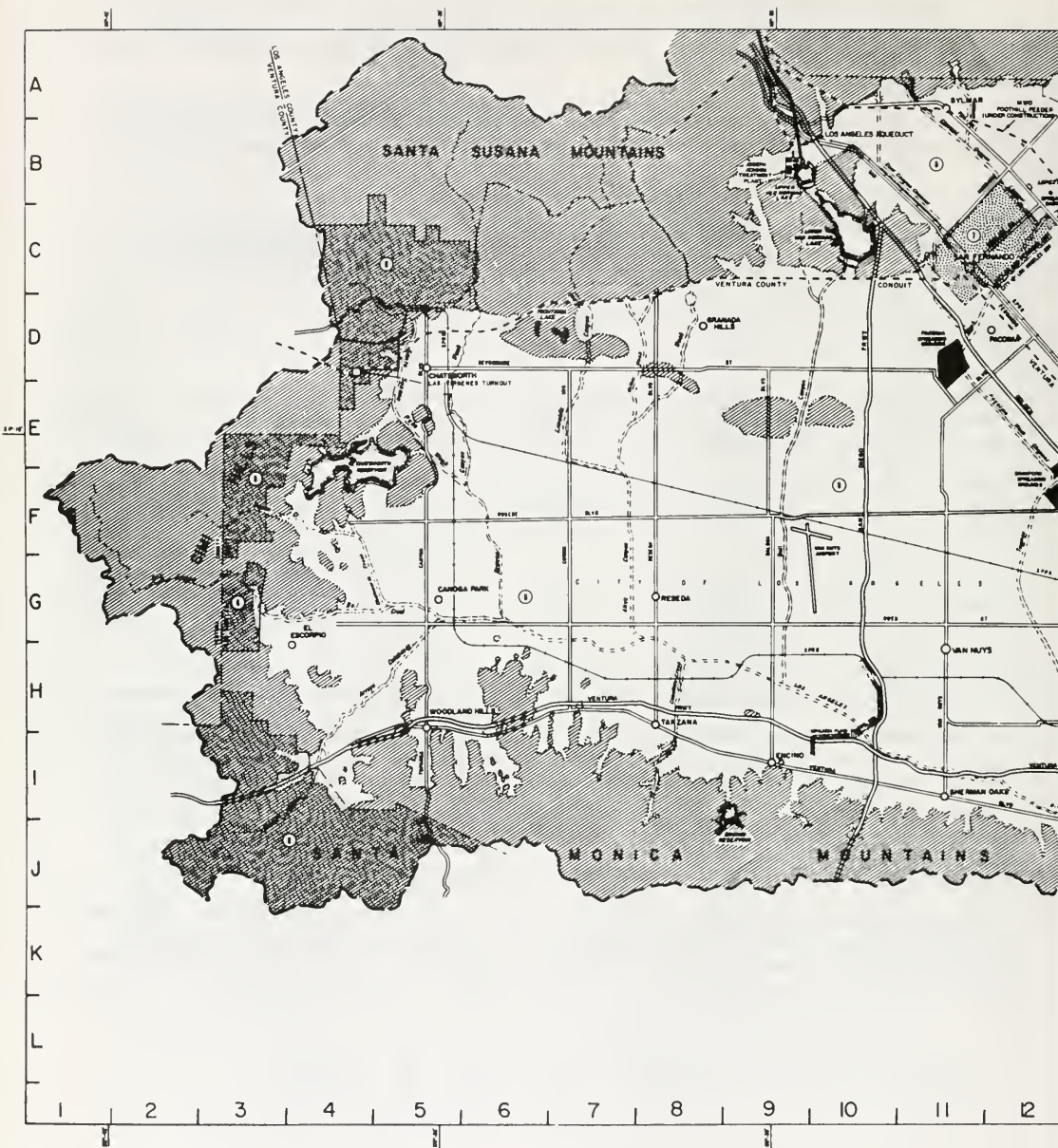
Quantity extracted, in acre-feet

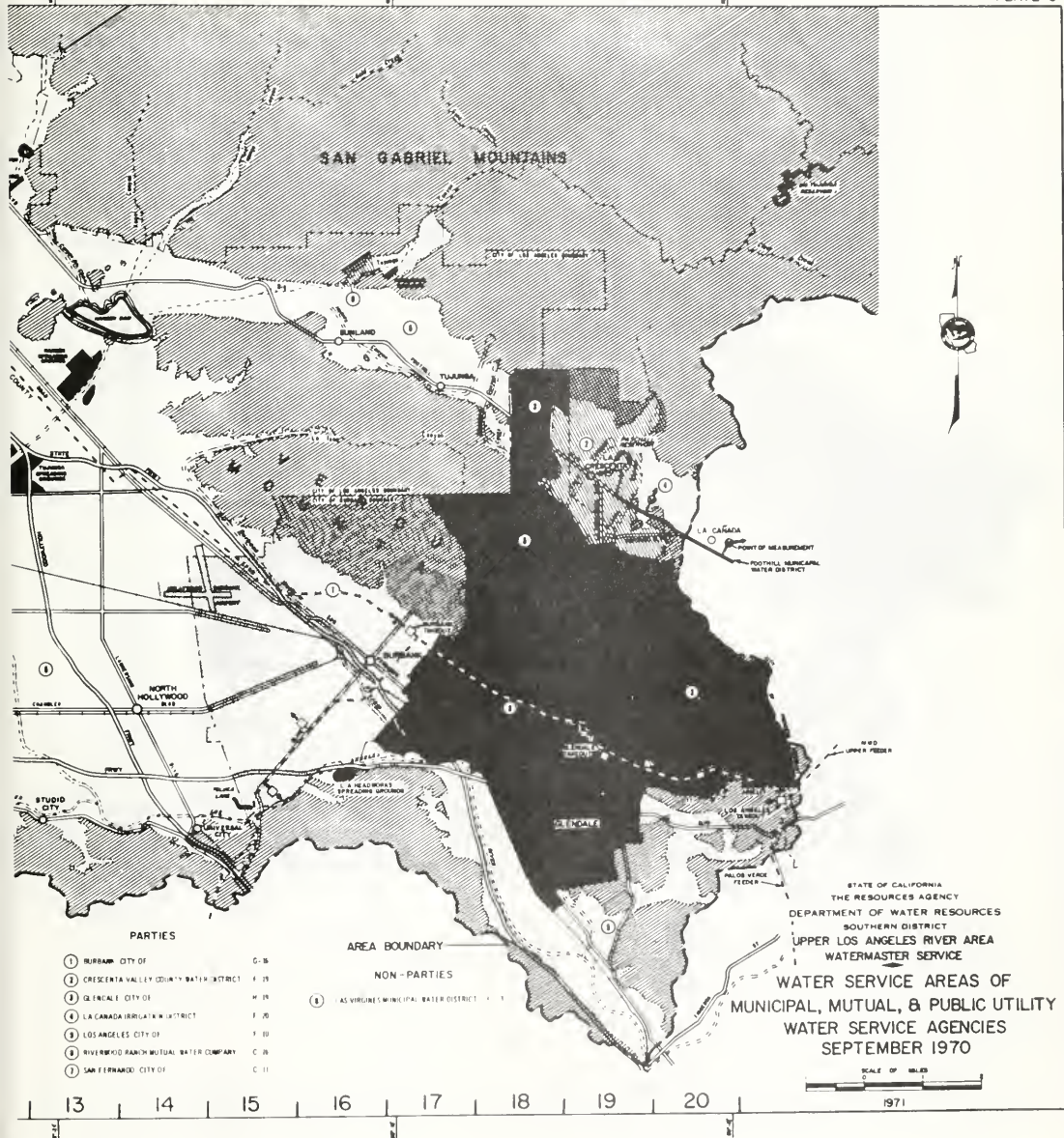
Month	: Metropolitan	: Western Oil and Gas Association	:		
	: Water District	: Cox Plant	: Newman Plant	: Well No. W-58	: Total
October 1969	0.02	35.32	1.78		37.10
November	0.13	52.42	2.72		55.14
December	1.77	60.24	2.72		62.96
January 1970	2.74	55.70	2.92		58.62
February	11.14	39.04	7.37		46.41
March	13.70	3.47	25.00		28.47
April	39.77	4.38	7.21		11.59
May	9.97	10.31	14.28		24.59
June	6.50	9.90	9.99		19.89
July	6.42	16.32	25.22		41.54
August	5.43	15.91	21.13	2.07	39.11
September	<u>4.43</u>	<u>16.14</u>	<u>16.45</u>	<u>16.16</u>	<u>48.75</u>
Totals	102.02	319.15	136.79	18.23	474.17

On December 5, 1969, the Watermaster met with representatives of MWD and LACFCD to discuss whether it would be economical and feasible to conserve the San Fernando Tunnel waste water discharge in the County's Lopez Spreading Basin rather than having the water diverted into Pacoima Wash Channel. The meeting resulted in an agreement whereby waste water discharge rates in excess of 200 gpm and of long durations would be spread by the County. In addition, MWD agreed to meter and report the quantity of water emitting from the tunnel.

Although flows in excess of 200 gpm were encountered during 1969-70, the high rate of flow did not occur over a prolonged period of time. However, construction during 1970-71 in the vicinity of Glenoaks and Foothill Boulevards may influence the intensity and duration of waste water drainage so that spreading may be possible.

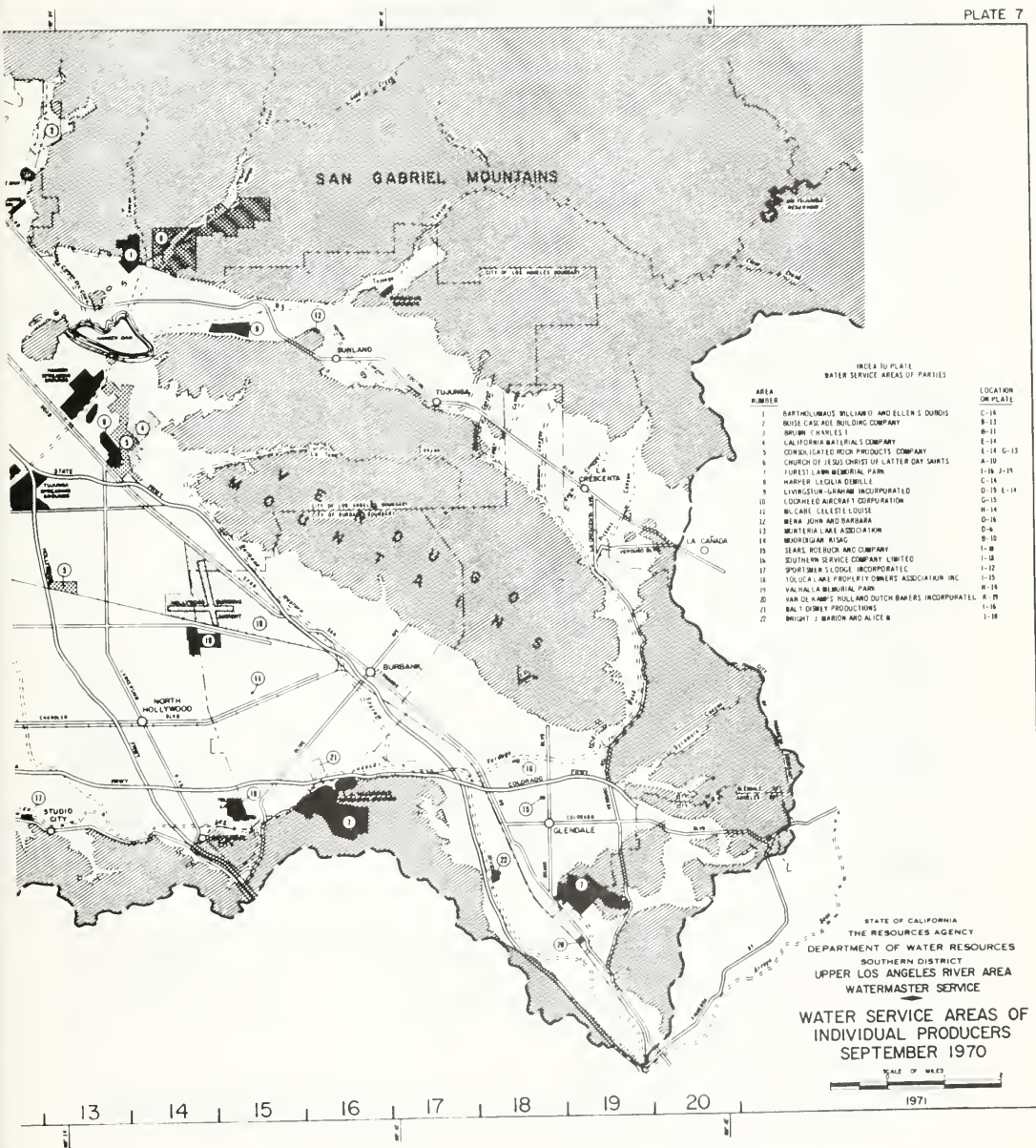












# Imports and Exports of Water

Rapidly expanding residential, commercial, and industrial areas within ULARA require the importation of additional water supplies. The City of Los Angeles and MWD, the only importers of supplemental water, have kept abreast of this demand by continuing to expand their facilities for the importation of water.

Listed in Table 6 are the ULARA imports as well as exports. Exports from ULARA, exclusive of sewage, are limited to the City of Los Angeles, which exports water consisting of imported water and ground water extractions.

TABLE 6

## ULARA IMPORTS AND EXPORTS

Source and Agency	Quantity, in acre-feet	
	1968-69	1969-70
<u>IMPORTS</u>		
<u>Colorado River Water</u>		
Burbank, City of	11,932	13,223
Crescenta Valley County		
Water District	686	1,243
Glendale, City of	8,679 <sup>a/</sup>	10,640
Los Angeles, City of	12,126 <sup>a/</sup>	10,190
La Canada Irrigation		
District	845	859
Las Virgenes Municipal		
Water District (non-party)	<u>519</u>	<u>735</u>
	34,787	36,890
<u>Owens River Water</u>		
Los Angeles, City of	<u>343,160<sup>b/</sup></u>	<u>385,608<sup>b/</sup></u>
Total	377,947	422,498
<u>EXPORTS</u>		
<u>Owens River Water</u>		
Los Angeles, City of	<u>-144,155<sup>a/</sup></u>	<u>-166,493</u>
Net Import	233,792	256,005

<sup>a/</sup> Last year's figure was updated.

<sup>b/</sup> This value represents the summation of the gross amount of water delivered to and exported from the ULARA. It does not include operational releases, reservoir evaporation, and water spread during the year.



On June 26, 1970, the second Los Angeles aqueduct went into operation, thus increasing the City's ability to import water from Owens River and Mono Basin, some 338 miles northeast of Los Angeles. Constructed by the City's Department of Water and Power, this aqueduct, known as the "second barrel" is capable of bringing in an additional supply of Owens River and Mono Basin water at the rate of more than 130 million gallons a day. This additional supply will of course reduce sharply the amount of Colorado River water Los Angeles will be taking from MWD.

In addition to the City's aqueduct, the Colorado River aqueduct constructed by The Metropolitan Water District of Southern California began delivery of water in 1940. The Metropolitan Water District of Southern California supplies water to the Cities of Burbank, Glendale, and Los Angeles. The Crescenta Valley County Water District and La Canada Irrigation District also import Colorado River water through the facilities of the Foothill Municipal Water District, which is a member agency of The Metropolitan Water District of Southern California.

In late 1971, State Water Project water will be delivered to The Metropolitan Water District of Southern California at Castaic Reservoir through the MWD Foothill Feeder to the Joseph Jensen Water Filtration Plant in ULARA. Considerable work was completed on the filtration plant as well as the San Fernando Tunnel of the Foothill Feeder during 1969-70. However, completion of the Foothill Feeder between Pacoima Wash and Arroyo Seco has been delayed to 1986.

All facilities for the importing of water are depicted on Plate 6, page 33

#### Physical Data by Basins

In order to comply with the Court's directive, the Watermaster has collected and summarized data on Table 7 which show the water supply and disposal in each of the basins.

The information for Table 7 was submitted by the parties. In instances where estimates were made, such as water delivered to hill and mountain areas, sewage exported, etc., estimates were made by the parties based upon methods consistent with previous estimates computed by the State Water Resources Control Board (SWRCB) for the San Fernando Valley Reference. The Watermaster likewise made computations of subsurface outflows based on similar computations made by the SWRCB.

Some of the figures submitted for Table 7 are partially estimated due to the lack of information at the time of submittal. However, the actual figures based on measured values are subsequently submitted to the Watermaster for its permanent record file. The revised data is available at your request from the Watermaster.

TABLE 7

SUMMARY OF WATER SUPPLY AND DISPOSAL BY BASINS  
In acre-feet

## . SAN FERNANDO BASIN .

Water source and use	: City of Burbank	: City of Glendale	: City of Los Angeles	: City of San Fernando	: All others	: Total
<u>Extractions</u>						
Total quantity	13,846	12,146	64,592 <sup>a/</sup>	0	6,180	96,764
Used in Valley Fill	13,232	6,010	8,857	0	5,706 <sup>b/</sup>	33,805
<u>Imports</u>						
Colorado River Water	13,223	7,395	6,270	0	735	27,623
Owens River Water	---	---	377,320	---	---	377,320
Ground water from Sylmar Basin	---	---	2,844	2,975	0	5,819
<u>Exports</u>						
Ground water:						
to Verdugo Basin	---	5,482	0	---	0	5,482
Out of ULARA	---	---	58,577	---	0	58,577
Owens River Water:						
Out of ULARA	---	---	166,493	---	---	166,493
to Eagle Rock Basin	---	---	314	---	---	314
Colorado River:						
to Verdugo Basin	---	3,245	0	---	0	3,245
<u>Water delivered to hill and mountain areas</u>						
Ground water	614	654	0	0	0	1,268
Owens River Water	---	---	32,800	---	---	32,800
Colorado River Water	586	921	2,719	---	735	4,961
<u>Water outflow</u>						
Surface						47,520 <sup>c/</sup>
Subsurface						174
Sewers	13,483 <sup>d/</sup>	17,400	72,160	1,421	0	104,464

## . SYLMAR BASIN .

Water source and use	: City of Los Angeles	: City of San Fernando	: All others	: Total
<u>Extractions</u>				
Total quantity	2,844	3,269	401	6,514
Used in Valley Fill	0	294	299 <sup>e/</sup>	593
<u>Imports</u>				
Owens River Water	6,998	---	---	6,998
<u>Exports</u>				
Ground water:				
to San Fernando Basin	2,844	2,975	0	5,819
<u>Water delivered to hill and mountain areas</u>				
Owens River Water	390	---	---	390
<u>Water outflow</u>				
Surface				5,000 <sup>f/</sup>
Subsurface:				
to San Fernando Basin				645
Sewers	720	141	0	861

## SUMMARY OF WATER SUPPLY AND DISPOSAL BY BASINS

In acre-feet  
(continued)VERDUGO BASIN

Water source and use	Crescenta Valley County Water District	City of Glendale	La Canada Irri- gation District	City of Los Angeles	Total
-------------------------	---	---------------------	------------------------------------	------------------------	-------

Extractions

Total quantity	3,340	3,576	0	0	6,916
Used in Valley Fill	3,313	3,576	0	0	6,889

Imports

Colorado River Water	1,243	3,245	859	0	5,347
Owens River Water	---	---	---	976	976
Ground water from San Fernando Basin	0	5,482	0	0	5,482

Exports

0	0	0	0	0
---	---	---	---	---

Water delivered to hill  
and mountain areas

Colorado River Water	27	340	0	0	417
Owens River Water	---	---	---	343	343
Ground water	77	947	0	0	974

Water outflow

Surface					6,090 <sup>a/</sup>
Subsurface:					300 <sup>b/</sup>
to Monk Hill Basin					73
to San Fernando Basin					1,122
Sewage	0	1,122	0	0	

EAGLE ROCK BASIN

Water source and use	City of Los Angeles	Deep Rock Water Company	Sparkletts Drinking Water Corporation	Total
-------------------------	------------------------	----------------------------	--	-------

Extractions

Total quantity	0	9	231	240
Used in Valley Fill	0	0	0	0

Imports

Owens River	314	---	---	314
Colorado River	3,920	---	---	3,920
Ground water	0	0	0	0

Exports

Ground water	0	9	231	240
--------------	---	---	-----	-----

Water delivered to hill  
and mountain areas

Colorado River Water	2,181	---	---	2,181
Owens River Water	91	---	---	91

Water outflow

Surface				---
Subsurface				50k <sup>d/</sup>
Sewers	2,080	0	0	2,080

a/ Excludes production from Reseda wells.

b/ Excludes production by Western Oil and Gas Association (nonparty)

c/ Measured at Station F-57C where the 29-year mean (1929-57) base low flow is 7,580 acre-feet.

d/ Includes reclaimed waste water which infiltrates into the ground water basin after being discharged in L. A. River and while on route to gaging station F-57C.

e/ Excludes water from San Fernando Tunnel which is being built by MWD.

f/ Surface outflow is not measured. Calculated average surface outflow by Laverty - SF Exhibit 57.

g/ Information obtained from Station F-252R.

h/ Based on 29-year average (1929-57).

i/ Information not available.

k/ Estimated in Supplemental No. 2 to Report of Referee for dry year 1960-61. Currently, data not available for direct evaluation.

## Water Wells in ULARA

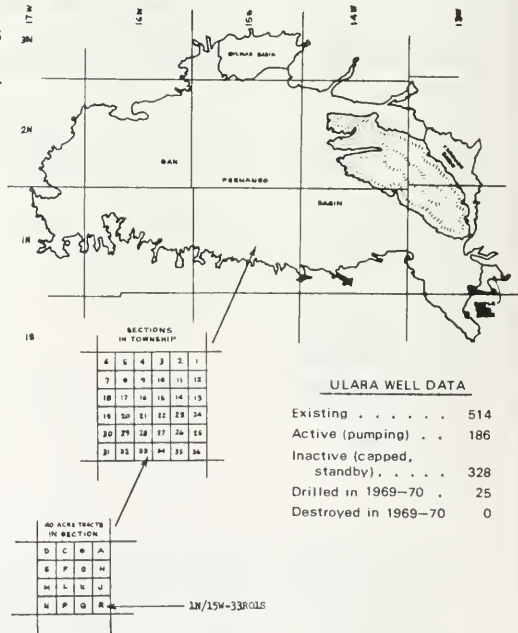
The Report of Referee described the wells in ULARA according to a number-location identification system devised by the Los Angeles County Flood Control District. However, the Watermaster has redesignated the wells in accordance with its recording system. Each water well in ULARA was assigned a state well number in order to simplify the administration of the Judgment and the monitoring of ground water extractions. A cross-index between State well numbers and County numbers should be completed by March 1971. At that time, it will be made available to all interested parties.

A state well numbering system was adopted by the State several years ago which utilizes the United States Public Land Survey System. A graphical illustration of the system in ULARA is shown below. Each state well number consists of a township, range, and section number; a letter to indicate the 40-acre plot where the well is located; a number to identify the particular well in the section; and the letter "S" indicating that the well location is referenced to the San Bernardino Base and Meridian.

For instance, State Well No. 1N/15W-33R01S would be the first well assigned a number in Township 1 North, Range 15 West, Section 33, and in the 40-acre Tract "R". All wells in ULARA are referenced to the San Bernardino Base and Meridian so the letter "S" is normally dropped in this report.

Plate 2 on page 11 records all wells (party and nonparty) in ULARA in accordance with the above procedure.

As a matter of course, the Watermaster locates all new wells by survey and assigns a new state well number. The parties that submit detailed information as to the location of the well will preclude the Watermaster's requirement for a survey. If the well is suspected of being abandoned or destroyed, the Watermaster will attempt to tag the well, requesting that the owner inform the Watermaster of his intentions. In this manner, the owner may be informed of the proper methods of destroying the well. Each party is required to notify the Watermaster whenever a new well is drilled.



During 1969-70, the Western Oil and Gas Association drilled 25 wells near Forest Lawn in Glendale. To the Watermaster's knowledge, no other wells were drilled. The well data shown to the right, includes nonparty wells.

## CHAPTER IV. ADMINISTRATION OF THE JUDGMENT

The Court appointed the Department of Water Resources as Watermaster in the Upper Los Angeles River Area, for the specific purpose of administering and enforcing the provisions of the Judgment and to fully advise or apprise the Court of any violations. The Watermaster was also directed to keep the Court informed of any changes in ownership by reason of transfer of water rights by parties and to report on the compliance and violation by any party under the terms of the Judgment. This chapter presents these requirements of the Court.

### Assignments of Restricted Pumping

The Watermaster is required to inform the Court of any transfer or assignments of "Restricted Pumping". Table 8 lists all assignments, parties, and amounts involved. Appendix "A" records the documents used to assign "Restricted Pumping" rights by each of the parties as of September 30, 1970.

TABLE 8  
ASSIGNMENTS OF RESTRICTED PUMPING

Party	:	Assignment and amount,	:	Party
	:	in acre-feet	:	
<u>San Fernando Basin</u>				
<u>Pursuant to Stipulated Judgments</u>				
California Materials Company	Stipulated	400.00 <sup>a/</sup>	from	Los Angeles, City of
Consolidated Rock Products Co.	Stipulated	1500.00 <sup>a/</sup>	from	Los Angeles, City of
Livingston-Graham, Incorporated	Stipulated	350.00 <sup>a/</sup>	from	Los Angeles, City of
Sears, Roebuck and Company	Stipulated	100.00 <sup>a/</sup>	from	Los Angeles, City of
Walt Disney Productions	Stipulated	1600.00 <sup>a/</sup>	from	Los Angeles, City of
<u>Pursuant to License</u>				
Burbank, City of	Licensed	204.90	from	Lockheed Aircraft Corporation
Glendale, City of	Licensed	100.00	from	Forest Lawn Memorial Park Association
Harper, Cecelia DeMille	Licensed	60.00	from	Forest Lawn Memorial Park Association
Riverwood Ranch Mutual Water Co.	Licensed	32.00	from	Lockheed Aircraft Corporation
Southern Service Company, Ltd.	Licensed	120.00	from	Forest Lawn Memorial Park Association
Sportsmen's Lodge, Incorporated	Licensed	8.00	from	Forest Lawn Memorial Park Association
Sportsmen's Lodge, Incorporated	Licensed	6.00	from	Lockheed Aircraft Corporation
Sportsmen's Lodge, Incorporated	Licensed	10.00	from	Van de Kamp's Holland Dutch Bakers, Inc.
Toluca Lake Property Owner's Association	Licensed	16.50	from	Bartholomaeus, William O. and Dubois, Ellen S.
Valhalla Memorial Park	Licensed	20.00	from	Lockheed Aircraft Corporation
Wright, Marion J. and Alice M.	Licensed	18.00	from	Van de Kamp's Holland Dutch Bakers, Inc.

### Sylmar Basin

#### Pursuant to Physical Solution

San Fernando, City of	300.00 <sup>b/</sup>	from	Los Angeles, City of
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#### Pursuant to License

San Fernando, City of	Licensed	40.00	from	Moordigian, Kisag
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<sup>a/</sup> Estimate submitted by City of Los Angeles, see Appendix A.

<sup>b/</sup> Estimate submitted by City of San Fernando.



During the 1969-70 water year, the City of Los Angeles submitted estimates on the amounts to be extracted by those parties having separate stipulated Judgments with the City of Los Angeles. The clause, which allows the parties with stipulated Judgments to extract ground water under the City of Los Angeles' "Restricted Pumping" right, is covered by Section V, Paragraph 2 of the Judgment. In addition, the City of San Fernando exercised its right to purchase water from the City of Los Angeles pursuant to the "Physical Solution - Sylmar Basin", which is described in Section VII, Paragraph 2 of the Judgment.

In addition to the Cities of Los Angeles and San Fernando, a number of parties availed themselves of the opportunity to license water rights to meet their water demands. There were no transfer of water rights in the Verdugo Basin.

In order that a water right license or sale agreement be in force during the water year, it will be the Watermaster's policy that it be signed before or during the water year in question. Failure to submit a license or sale document with the Watermaster by August 31 of the water year in question may be considered as evidence that such an agreement was never consummated during such water year.

Please note the suggested sample copies of Water Use License Agreements and Sale of Water Rights which are included in Appendix A.

#### Overextractions

In restricting ground water extractions in ULARA, it was foreseen that there would be unavoidable fluctuations in water usage occurring from year to year. Therefore, the flexibility clause was included in the Judgment which allowed each party to vary its extractions within reasonable limits so that it could pump more or less than its "Restricted Pumping", with equivalent debits or credits being applied to its extractions in subsequent water years.

The provisions described in Section VIII of the Judgment, allows each party a flexibility of 10 percent of its "Restricted Pumping" right. In other words, a party may underpump or overpump by ten percent of its Restricted Pumping and in the succeeding water year increase or decrease (whichever is applicable) its pumping by the same amount. Table 9 summarizes all over-extractions and violations of the Judgment.

Of the 12 parties that overextracted within the San Fernando Basin, nine were in violation of the Judgment. In the Sylmar Basin, two parties violated the Judgment and that was by reason of having no "Restricted Pumping" right. The parties in violation are subject to court action. Recommendations are discussed under "Determinations and Recommendations by the Watermaster".

Table 9 also lists those parties that are subject to the stipulated Judgment with the City of Los Angeles. These parties' extractions, in excess of the estimates submitted by the City of Los Angeles, will be adjusted against the City's "Restricted Pumping" right during the 1970-71 water year. As such, the parties in question are not considered to be in violation of the Judgment.

TABLE 9  
OVEREXTRACTIONS  
in acre-feet

Party	(1)	(2)	(3)	(4)	Overextractions		
	Restricted Pumping <sup>a/</sup>	Allowable carryover from 1968-69	Allowable extraction 1969-70	Amount extracted	(5) Amount	(6) Allowable <sup>b/</sup>	(7) In percent
			(1)-(2)=(3)		(3)-(4)=(5)		(7)-(6)=(1)/100=(7)
<u>San Fernando Basin</u>							
Consolidated Rock Products Company	1,500.00	0.00	+ 1,500.00	- 1,580.58	- 80.58	---	<sup>c/</sup>
Harper, Cecilia DeMille	60.00	28.31	- 31.69	- 38.38	- 6.69	6.00	11.15 <sup>d/</sup>
Livingston-Graham, Incorporated	350.00	0.00	+ 350.00	- 521.13	- 171.13	---	<sup>c/</sup>
Los Angeles, City of	59,307.00	565.20	+ 58,741.80	- 64,591.57	- 5,849.77	6,325.70 <sup>e/</sup>	9.25 <sup>e/</sup>
Mena, John and Barbara	0.00	0.96	- 0.96	- 0.96	- 1.92	0.00	-- <sup>d/</sup>
Monterita Lake Association	0.00	7.15	- 7.15	- 6.31	- 13.46	0.00	-- <sup>d/</sup>
Riverwood Ranch Mutual Water Co.	32.00	7.24	+ 24.76	- 30.63	- 5.87	3.20	18.34 <sup>d/</sup>
Sears, Roebuck and Company	100.00	0.00	+ 100.00	- 383.73	- 283.73	---	<sup>c/</sup>
Southern Service Company, Ltd.	120.00	93.82	- 26.18	- 70.55	- 44.37	12.00	36.98 <sup>d/</sup>
Sportsmen's Lodge, Incorporated	24.00	110.04	- 86.04	- 33.01	- 119.05	2.40	494.00 <sup>d/</sup>
Toluca Lake Property Owners' Assoc.	39.50	7.40	+ 32.10	- 39.00	- 6.90	3.95	17.47 <sup>d/</sup>
Walt Disney Productions	1,600.00	0.00	+ 1,600.00	- 1,842.70	- 242.70	---	<sup>c/</sup>
<u>Sylmar Basin</u>							
Brown, Charles T.	0.00	5.31	- 5.31	- 6.99	- 12.50	0.00	-- <sup>d/</sup>
Church of Jesus Christ of the Latter Day Saints	0.00	318.84	- 318.84	- 272.87	- 591.71	0.00 <sup>f/</sup>	-- <sup>d/</sup>
San Fernando, City of	3,077.00	0.00	+ 3,077.00	- 3,268.93	- 191.93	850.00	6.24
<u>Verdugo Basin</u>							
Crescents Valley County Water Dist.	3,294.00	6.64	+ 3,300.64	- 3,339.75	- 39.11	329.40	1.19

a/ Refer to Column (1)-(3), Table 5.

b/ Computed as 10 percent of Column (1) unless otherwise noted.

c/ Party entitled to extract ground water per stipulated judgment with City of Los Angeles. The City will, in succeeding water year, decrease its extractions by the amount of the overextraction shown under Column (5).

d/ Party in violation of the Judgment either as a result of having a zero water right or having exceeded its allowable extraction by 10 percent of its "Restricted Pumping" shown in Column (1).

e/ For City of Los Angeles, the allowable overextraction is 10 percent of its "Restricted Pumping" shown in Column (1) of Table 5.

### Determinations and Recommendations by the Watermaster

Forest Lawn Memorial Park Association requested that it not be held responsible or accountable for extractions from their Well No. 4, during the 1968-69 water year, while it was being utilized to prevent the further spreading of gasoline pollution. With the concurrence of the Advisory Board, the Watermaster granted Forest Lawn's request until such time as if and when the water quality from Well No. 4 improved so that it might be used for beneficial use. This condition continued into the 1969-70 water year.

At the Advisory Board meeting of February 2, 1970, the Board recommended that extractions from Well No. 4 be charged to Forest Lawn. The Watermaster reviewed conditions at Well No. 4 and found that the well had been reworked to seal off the upper water bearing strata and to produce from the lower strata which contains good quality water. Soon thereafter, Forest Lawn was advised to report its extractions to the Watermaster. On May 1, 1970, Forest Lawn began to utilize the water produced from Well No. 4 for beneficial use and thus resumed reporting production therefrom.

As to overextractions for the 1969-70 water year, the Watermaster finds nine parties in violation of the Judgment and recommends action by the Court be brought only against the Church of Jesus Christ of the Latter Day Saints. This party was also in violation of the Judgment for the 1968-69 water year and on September 11, 1970, the Watermaster advised them by letter that since

they had a zero water right that they were obliged to either lease or buy water rights to cover the overextraction and any further extractions or cease extracting ground water. The third paragraph of the letter further stated as follows:

"The above-mentioned annual report has been filed with the Superior Court of Los Angeles County and as such is official notice of your Church's violation of the Judgment. Please be informed that you are subject to court action by virtue of the Court's own motion or by petition to the Court by any of the parties to the Judgment."

Letters such as sent to the above party were also sent to Cecelia DeMille Harper, John and Barbara Mena, and the Monteria Lake Association, who are again in violation of the Judgment in 1969-70. However, no action is recommended by the Watermaster. Cecelia DeMille Harper leased sufficient water to cover the 1968-69 and 1969-70 water years based on their 1968-69 extractions; however, their requirements increased, thus the overextraction. John and Barbara Mena, extract less than 1 acre-foot a year for domestic purposes and do not have access to a water utility connection. Monteria Lake Association's pump and well were destroyed in the forest fire of September 1970, and will no longer extract ground water.

As to the five remaining parties who overextracted in violation of the Judgment, the Watermaster also does not recommend any action be taken. Four parties have and are continuing to make efforts to eliminate their over-extractions by obtaining leased water rights. One party, namely, Charles T. Brown, who appears as an active party for the first time during the 1969-70 water year, will be advised by the Watermaster as to his recourse and possible action against him due to his overextraction.

## CHAPTER V. ADMINISTRATIVE COSTS

The Upper Los Angeles River Area was established as a "Watermaster Service Area" in accordance with Part 4, Division 2, of the Water Code of the State of California. Pursuant to the provisions of Section 4201 thereof, the cost of watermaster service is payable one-half by the State and one-half by the parties. Thus, the parties are assisted by the State in their endeavor to distribute the waters of ULARA in the most economical way.

The Judgment, on the other hand, describes the procedures for apportioning the costs among the parties and how it should be collected. It requires that each year, the Watermaster prepare a proposed budget covering the forthcoming July 1 to June 30 fiscal year. Please keep in mind that watermaster service and the annual report are on a water year basis, i.e., October 1 through September 30. The Judgment also provides that the parties' share of the budget be borne by each party in the proportion that its "Mutual Prescriptive Right" bears to the total "Mutual Prescriptive Right" of all parties in ULARA. However, no party having 50 acre-feet or less of "Mutual Prescriptive Right" shall be assessed any charges.

The Watermaster is required to include the proposed budget and its apportionment in the annual report, so that they may be reviewed and approved by the Advisory Board on or about February 1 of each year. The proposed budget is subsequently mailed to the parties as part of the annual report on or before March 1 of each year. If there are any objections to the proposed budget, they must be presented in writing to the Court and to the Watermaster within 30 days (on or before March 31) after the mailing of the annual report. If no objections are received, the proposed budget becomes final. All payments must be received, whether objections are filed or not, within 60 days (on or before May 1) after mailing of the annual report.

### Approved Budget for 1969-70

The tentative budget for 1969-70 was reviewed and approved by the Advisory Board at a meeting held on February 3, 1969. This second budget, like the first budget prepared for watermaster service, was submitted to the Advisory Board and to the parties separately as a separate item and not as a part of an annual report. The budget mailed to the parties on March 1, 1969, received no objections and, by reason thereof, became final on April 1, 1969. Table 10 presents the 1969-70 approved budget. The apportionment of the budget is shown on Table 11. All payments were made within the specified time limit.

TABLE 10  
APPROVED BUDGET FOR 1969-70

Salaries and wages	\$16,021
Operating expenses	<u>9,410</u>
 TOTAL BUDGET	 \$25,431
 Billing amount necessary for fiscal year July 1, 1969 through June 30, 1970	  \$25,431
 One-half payable by State	 \$12,716
One-half payable by parties to Judgment	 \$12,715

TABLE 11  
APPORTIONMENT OF PARTIES' SHARE OF 1969-70 BUDGET

Party	: Mutually Prescriptive : Right, in acre-feet	: Apportionment : to be paid
<u>San Fernando Basin</u>		
Burbank, City of	17,760	\$ 1,770
Forest Lawn Memorial Park Assoc.	1,060	106
Glendale, City of	16,141	1,608
Lockheed Aircraft Corporation	310	31
Los Angeles, City of	82,310	8,202
Valhalla Memorial Park	240	24
Van de Kamp's Holland Dutch Bakers, Inc.	120	12
<u>Verdugo Basin</u>		
Crescenta Valley County Water District	1,988	198
Glendale, City of	2,327	232
<u>Sylmar Basin</u>		
Boise Cascade Building Company	527	53
Los Angeles, City of	2,440	243
San Fernando, City of	<u>2,370</u>	<u>236</u>
 TOTALS	 127,593	 \$ 12,715
<u>Recapitulation for:</u>		
Glendale, City of	18,468	\$ 1,840
Los Angeles, City of	84,750	\$ 8,445



During the first year of watermaster service (1968-69), much work was postponed to the 1969-70 fiscal year due to the lack of personnel. As a result, the expenditures in 1969-70 were considerably higher when compared with the 1968-69 fiscal year. The deferred work programs, coupled with the demands in preparing the first annual report and rising costs all contributed to the \$24,709.04 expenditures in fiscal year 1969-70.

Income and expenditures for watermaster service during the 1969-70 fiscal year are shown in Table 12. In accordance with the California Water Code, any credit or debit balance remaining at the end of the fiscal year is carried forward into the succeeding fiscal year. The parties' share of the carryover into the 1970-71 fiscal year totaled \$4,560.63.

TABLE 12

STATEMENT OF JULY 1, 1969 - JUNE 30, 1970 INCOME AND EXPENDITURES

Item	:	Parties	:	State	:	Parties and State
<u>Income</u>						
From 1969-70 budget		\$12,715.00		\$12,716.00		\$25,431.00
Balance from 1968-69		<u>4,200.15</u>				<u>4,200.15</u>
TOTAL INCOME		\$16,915.15		\$12,716.00		\$29,631.15
<u>Expenditures</u>						
Salaries and wages		\$ 9,062.70		\$ 9,062.70		\$18,125.40
Operating expenses						
Miscellaneous indirect cost <sup>a/</sup>		2,125.00		2,125.00		4,250.00
Travel in State		41.82		41.83		83.65
Printing annual report		75.67		75.66		151.33
Electronic machine computing		720.71		720.71		1,441.42
Other <sup>b/</sup>		<u>328.62</u>		<u>328.62</u>		<u>657.24</u>
TOTAL EXPENDITURES		<u>\$12,354.52</u>		<u>\$12,354.52</u>		<u>\$24,709.04</u>
BALANCE		\$ 4,560.63 <sup>c/</sup>		\$ 361.48		\$ 4,922.11

a/ Rent, utilities, auto rental, communications, retirement, employee's health plan, and workmen's compensation insurance.

b/ Equipment rental, mobile equipment operation, engineering contracts.

c/ Total credit to parties in 1970-71 water year, subject to delayed charges.

APPROVED BUDGET FOR 1970-71

In accordance with the Judgment, the Watermaster submitted the proposed budget for the fiscal year July 1, 1970 through June 30, 1971 as part of its 1968-69 annual report. The tentative budget and annual report were reviewed and approved by the Advisory Board on February 2, 1970. The parties had 30 days after the mailing of the annual report to submit their objections to the proposed budget. No objections were received by March 31, 1970 and the proposed budget became final. Invoices for each party's proportionate share of the budget were mailed on or about April 1 and all payments were received prior to the deadline of May 1, 1970. Table 13 presents the 1970-71 budget as approved by the Advisory Board and parties. Each party's share of the 1970-71 budget is shown in Table 14.

TABLE 13

TENTATIVE BUDGET FOR THE FISCAL YEAR JULY 1, 1970  
THROUGH JUNE 30, 1971

Salaries and wages	\$16,532	
Operating expenses	<u>8,644</u>	
TOTAL BUDGET		\$25,176
One-half payable by State		\$12,588
One-half payable by parties to Judgment		\$12,588
Less estimated funds on hand July 1, 1970		- 3,000
Amount to be billed		<u>\$ 9,588</u>

State of California  
The Resources Agency  
DEPARTMENT OF WATER RESOURCES  
Southern District

Approved: Date: 2/2/70

UPPER LOS ANGELES RIVER AREA  
ADVISORY BOARD

By L. St. Grayson  
Chairman

*JD Doody*  
James J. Doody  
District Engineer  
Southern District  
and Watermaster

TABLE 14

## APPORTIONMENT OF PARTIES' SHARE OF 1970-71 BUDGET

Party	Mutually Prescriptive Right, in acre-feet	Apportionment to be paid
<u>San Fernando Basin</u>		
Burbank, City of	17,760	\$ 1,335
Forest Lawn Memorial Park Assoc.	1,060	80
Glendale, City of	16,141	1,213
Lockheed Aircraft Corporation	310	23
Los Angeles, City of	82,310	6,185
Valhalla Memorial Park	240	18
Van de Kamp's Holland Dutch Bakers, Inc.	120	9
<u>Verdugo Basin</u>		
Crescenta Valley County Water District	1,988	149
Glendale, City of	2,327	175
<u>Sylmar Basin</u>		
Boise Cascade Building Company	527	40
Los Angeles, City of	2,440	183
San Fernando, City of	<u>2,370</u>	<u>178</u>
TOTALS	127,593	\$ 9,588
<u>Recapitulation for:</u>		
Glendale, City of	18,468	\$ 1,388
Los Angeles, City of	84,750	\$ 6,368

TENTATIVE BUDGET FOR 1971-72

In accordance with the Judgment, the Watermaster hereby submits a proposed budget for the fiscal year July 1, 1971 through June 30, 1972. The tentative budget submitted herewith was reviewed and approved by the Advisory Board on February 1971. The parties will have 30 days after the mailing of the annual report for submitting their objections to the proposed budget. If no objections are received by March 31, 1971, the budget will become final. Invoices for each party's proportionate share of the budget will be mailed on or about April 1 and payments will be due on or before May 1, 1971. Table 15 presents the 1971-72 budget as approved by the Advisory Board. Each party's share of the 1971-72 budget is shown in Table 16.

TABLE 15

TENTATIVE BUDGET FOR THE FISCAL YEAR JULY 1, 1971  
THROUGH JUNE 30, 1972

Salaries and wages	\$18,307
Operating expenses	<u>8,352</u>
 TOTAL BUDGET	 \$26,659
 One-half payable by State	 \$13,330
One-half payable by parties to Judgment	\$13,329
Less estimated funds on hand July 1, 1971	<u>- 1,500</u>
Amount to be billed	\$11,829

APPROVED:

UPPER LOS ANGELES RIVER  
AREA ADVISORY BOARD

By

Robert E. James  
Robert James  
Chairman

Date

Feb. 3, 1971

STATE OF CALIFORNIA  
The Resources Agency  
DEPARTMENT OF WATER RESOURCES  
Southern District

By

James J. Doody  
James J. Doody  
District Engineer  
Southern District  
and Watermaster

Date

JAN 28 1971

TABLE 16

APPORTIONMENT OF PARTIES' SHARE  
OF 1971-72 BUDGET

Party	: Mutually Prescriptive : Right, in acre-feet	: Apportionment : to be paid
<u>San Fernando Basin</u>		
Burbank, City of	17,760	\$ 1,646.51
Forest Lawn Memorial Park Association	1,060	98.27
Glendale, City of	16,141	1,496.42
Lockheed Aircraft Corporation	310	28.74
Los Angeles, City of	82,310	7,630.88
Valhalla Memorial Park	240	22.25
Van de Kamp's Holland Dutch Bakers, Inc.	120	11.12
<u>Verdugo Basin</u>		
Crescenta Valley County Water District	1,988	184.30
Glendale, City of	2,327	215.73
<u>Sylmar Basin</u>		
Boise Cascade Building Company	527	48.85
Los Angeles, City of	2,440	226.21
San Fernando, City of	<u>2,370</u>	<u>219.72</u>
TOTALS	127,593	\$ 11,829.00
<u>Recapitulation for:</u>		
Glendale, City of	18,468	\$ 1,712.15
Los Angeles, City of	84,750	\$ 7,857.09





APPENDIX A

RESTRICTED PUMPING OF  
UPPER LOS ANGELES RIVER AREA PARTIES  
SEPTEMBER 1970

AND

COPIES OF LEGAL DOCUMENTS



# Appendix A

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Livingston-Graham, Incorporated	Los Angeles, City of .....	60
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### SYLMAR BASIN

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**RESTRICTED PUMPING OF  
UPPER LOS ANGELES RIVER AREA PARTIES  
SEPTEMBER 1970**

<u>Party <sup>a/</sup></u>	<u>Restricted Pumping, in acre-feet per year</u>
<b><u>SAN FERNANDO BASIN</u></b>	
Bartholomaeus, William O. and Ellen S. Dubois	15.00
Burbank, City of	13,649.00
California Materials Company	0.00 <u>b/</u>
Consolidated Rock Products Company	0.00 <u>b/</u>
Forest Lawn Memorial Park Association	814.00
Includes: American Security and Fidelity Company Forest Lawn Cemetery Association Forest Lawn Company	
Glendale, City of	12,405.00
Harper, Cecilia DeMille	0.00
Successor of Estate of Cecil B. DeMille	
Livingston-Graham, Incorporated	0.00 <u>b/</u>
Successor of Livingston Rock and Gravel Company	
Lockheed Aircraft Corporation	239.00
Los Angeles, City of	63,257.00
McCabe, Celeste Louise	1.00
Mena, John and Barbara	0.00
Successor of Neva Bartlett Holmgren	
Monterea Lake Association	0.00
Riverwood Ranch Mutual Water Company	0.00
Sears, Roebuck & Company	0.00 <u>b/</u>
Southern Service Company, Limited	0.00
Sportsmen's Lodge, Incorporated	0.00
Formerly known as Sportsmen's Lodge Banquet Corporation	
Toluca Lake Property Owners' Association	23.00
Valhalla Memorial Park	184.00
Includes: Valhalla Mausoleum Park Valhalla Properties	
Van de Kamp's Holland Dutch Bakers, Incorporated	93.00
Walt Disney Productions	0.00 <u>b/</u>
Wright, Marion J. and Alice M.	0.00
<b>SUBTOTALS (SAN FERNANDO BASIN)</b>	<b>90,680.00</b>



**RESTRICTED PUMPING OF  
UPPER LOS ANGELES RIVER AREA PARTIES  
SEPTEMBER 1970**

(Continued)

<u>Party <sup>a/</sup></u>	<u>Restricted Pumping, in acre-feet per year</u>
<b><u>SYLMAR BASIN</u></b>	
Boise Cascade Building Company Successor of The Wellesley Company Successor of Maxine Duckworth and John E. Mullin	609.00
Brown, Charles T. Successor of Stella M. Brown	0.00
Church of Jesus Christ of the Latter-Day-Saints Successor of Henry G. Stetson	0.00
Los Angeles, City of	2,818.00
Moordigian, Kisag	46.00
San Fernando, City of	<u>2,737.00</u>
SUBTOTALS (SYLMAR BASIN)	6,210.00
<b><u>VERDUGO BASIN</u></b>	
Crescenta Valley County Water District	3,294.00
Glendale, City of	<u>3,856.00</u>
SUBTOTALS (VERDUGO BASIN)	<u>7,150.00</u>
TOTAL (ULARA)	104,040.00

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<sup>a/</sup>Parties that are not listed on this table have a zero water right or "Restricted Pumping."

<sup>b/</sup>Party is allowed to extract ground water pursuant to Stipulated Judgment with City of Los Angeles.

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WATER USE LICENSE AGREEMENT

LOCKHEED AIRCRAFT CORPORATION (hereinafter referred to as "Licensor") hereby grants to CITY OF BURBANK, City Hall, Burbank, California (hereinafter referred to as "Licensee") a license to extract two hundred four and nine tenths (204.9) acre-feet of water during the period commencing February 1, 1970 and ending September 30, 1970 and one hundred eighty-one (181) acre-feet of water annually of Licensor's Restricted Pumping right allocated to Licensor under and pursuant to Judgment dated March 14, 1968, and entered in Los Angeles Superior Court, Case No. 650,079 entitled "The City of Los Angeles, Plaintiff vs. City of San Fernando, et al, Defendants," during the period commencing October 1, 1970 and continuing to and including September 30, 1972.

Said License is granted, subject to the following conditions:

(1) Licensee shall exercise said right and extract the same on behalf of Licensor during the period above specified and put the same to beneficial use and Licensee shall not by the exercise hereunder of said right acquire any right to extract water independent of the rights of Licensor.

(2) Licensee shall notify the Watermaster that said pumping was done pursuant to this License and provide the Watermaster with a copy of this License.

(3) Licensee shall note, in any recording of water production for the period of this License, that said pumping was done pursuant to this License.

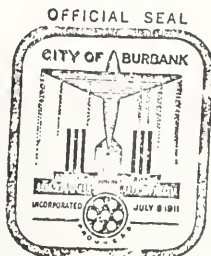
(4) Licensee shall be entitled to the rights and subject to the obligations and liabilities contained in a Supplemental License Agreement dated February 1, 1970 between Licensor and Licensee.

Licensor warrants that it has two hundred thirty-nine (239) acre-feet per water year of Restricted Pumping right; and since Licensor pumped no water during the preceding water year Licensor believes that it has the right to an additional ten percent (10%) of its Restricted Pumping right (twenty three and nine tenths (23.9) acre-feet) for the current year; and that Licensor has not pumped and will not pump or permit or license any other person to pump any part of the one hundred eighty-one (181) acre-feet granted annually by this License during the period of February 1, 1970 through September 30, 1972 and the additional twenty three and nine tenths (23.9) acre-feet granted by this License during the period of February 1, 1970 through September 30, 1970.

This License is entered into as of the first day of February, 1970.

LOCKHEED AIRCRAFT CORPORATION

By *Zimmerman*  
Attorney-in-Fact



Attest

CITY OF BURBANK.

By *Joseph B. Baker*  
City Manager

By *Margaret U. Marshall*  
City Clerk  
*by: Andrew L. Haley, Asst.*



SAM YORTY  
MAYOR

DEPARTMENT  
OF  
**WATER AND POWER**  
THE CITY OF LOS ANGELES

COMMISSION  
JOHN W. LUMRING, PRESIDENT  
HENRY G. BOORIN  
NATHAN O. FREEMAN  
MIKE HOLLANDER  
FRANK R. PALMIERI  
MARY J. BORN, SECRETARY

WATER AND POWER SQUARE  
111 NORTH HOPE STREET  
MAILING ADDRESS P. O. BOX 111  
LOS ANGELES, CALIFORNIA 90054  
TELEPHONE (213) 401-4211  
CABLE ADDRESS: OEWAPOLA

EDGAR L. KANDOUSE  
GENERAL MANAGER  
AND CHIEF ENGINEER

JOHN O. COWAN  
ASSISTANT GENERAL MANAGER  
AND CHIEF ENGINEER

FLOYD L. ROSS  
CHIEF ELECTRICAL ENGINEER  
AND ASSISTANT MANAGER

ROBERT V. PHILLIPS  
CHIEF ENGINEER OF  
WATER WORKS AND  
ASSISTANT MANAGER

WILLIAM O. BACHAU  
CHIEF FINANCIAL OFFICER

December 16, 1970

Mr. James J. Doody  
District Engineer and Watermaster  
State of California  
Department of Water Resources  
P. O. Box 6598  
Los Angeles, California 90055

Dear Mr. Doody:

Estimated Ground-Water Production  
for Stipulated Judgment Parties  
for the Water Year 1969-70

In accordance with Section IV of the "Policies and Procedures" for the Watermaster Service in the Upper Los Angeles River Area, following is a table showing the City of Los Angeles' estimate of the amount of ground water each Stipulating Party was expected to have pumped during the water year 1969-70. This letter is sent in response to a verbal request made by Mr. Madrid of your office for the purpose of inclusion in the Watermaster's Annual Report for 1969-70. Also, the data enclosed will serve to document the verbal reply made to your office near the beginning of the water year.

<u>Stipulating Party</u>	<u>Estimated Ground Water Extraction Ac-ft</u>
California Materials Company	400
Consolidated Rock Products Company	1,500
Livingston-Graham, Inc.	350
Sears Roebuck & Company	100
Walt Disney Productions	<u>1,600</u>
Total Estimated Production	3,950

The estimated values above were based on the amount of ground-water extractions during the previous year (1968-69) by the Stipulating Parties. If additional information is required, please contact Byron Weinstein on 481-6180.

Very truly yours,

PAUL H. LANE  
Engineer  
Los Angeles Aqueduct

USE  
WATER/LICENSE AGREEMENT

FOREST LAWN COMPANY (Licensor) grants to CITY OF GLENDALE (Licensee):  
a license to extract 100 acre-feet of Licensor's Restricted Pumping allocated  
to Licensor (or predecessors in interest) under and pursuant to Judgment dated  
March 14, 1968, and entered in Los Angeles Superior Court Case No. 650,079  
entitled "The City of Los Angeles, Plaintiff vs. City of San Fernando, et al.,  
Defendants", during the period commencing as of the date hereof, and continuing  
to and including September 30, 1970.

Said License is granted, subject to the following conditions:

- (1) Licensee shall exercise said right and extract the same on behalf of Forest Lawn Company during the period above specified and put the same to beneficial use and Licensee shall not by the exercise hereunder of said right acquire any right to extract water independent of the rights of Licensor.
- (2) Licensee shall notify the Watermaster that said pumping was done pursuant to this License and provide the Watermaster with a copy of the document.
- (3) Licensee shall note, in any recording of water production for the period of agreement, that said pumping was done pursuant to this License.

FOREST LAWN COMPANY warrants that it has 100 acre-feet of Restricted Pumping and that it has not pumped and will not pump or permit or license any other person to pump any part of said 100 acre-feet during period from date hereof through September 30, 1970.

DATED:

FOREST LAWN COMPANY

CITY OF GLENDALE

By: [Signature]

Title: Vice President

By: [Signature]

Title: [Signature]

APPROVED AS TO FORM

JIMMIE W. RAINVILLE, City Attorney

Date: 9/21/70



WATER LICENSE AGREEMENT

FOREST LAWN COMPANY (Licensor) grants to CECILIA DE MILLE HARPER, (Licensee): a license to extract 60 acre-feet of Licensor's Restricted Pumping allocated to Licensor (or predecessors in interest) under and pursuant to Judgment dated March 14, 1966, and entered in Los Angeles Superior Court Case No. 650,079 entitled "The City of Los Angeles, Plaintiff vs. City of San Fernando, et al., Defendants", during the period commencing September 11, 1970, and continuing to and including September 30, 1970.

Said License is granted, subject to the following conditions:

- (1) Licensee shall exercise said right and extract the same on behalf of Forest Lawn Company during the period above specified and put the same to beneficial use and Licensee shall not by the exercise hereunder of said right acquire any right to extract water independent of the rights of Licensor.
- (2) Licensee shall notify the Watermaster that said pumping was done pursuant to this License and provide the Watermaster with a copy of the document.
- (3) Licensee shall note in any recording of water production for the period of agreement, that said pumping was done pursuant to this license.

FOREST LAWN COMPANY warrants that it has 60 acre-feet of Restricted Pumping and that it has not pumped and will not pump or permit or license any other person to pump any part of said 60 acre-feet during period of September 11, 1970 through September 30, 1970.

DATED: September 15 1970

FOREST LAWN COMPANY

CECILIA DE MILLE HARPER

By James A. [Signature]

By Russell A. [Signature]

Title Vice President

Title Manager

WATER USE LICENSE AGREEMENT

LOCKHEED AIRCRAFT CORPORATION (hereinafter referred to as "Licensor") hereby grants to RIVERWOOD RANCH MUTUAL WATER COMPANY, P. O. Box 146, Sunland, California, (hereinafter referred to as "Licensee") a license to extract thirty-two (32) acre-feet of water of Licensor's Restricted Pumping allocated to Licensor under and pursuant to Judgment dated March 14, 1968, and entered in Los Angeles Superior Court, Case No. 650,079 entitled "The City of Los Angeles, Plaintiff vs. City of San Fernando, et al, Defendants," during the period commencing February 1, 1970 and continuing to and including September 30, 1972.

Said License is granted, subject to the following conditions:

(1) Licensee shall exercise said right and extract the same on behalf of Licensor during the period above specified and put the same to beneficial use and Licensee shall not by the exercise hereunder of said right acquire any right to extract water independent of the rights of Licensor.

(2) Licensee shall notify the Watermaster that said pumping was done pursuant to this License and provide the Watermaster with a copy of this License.


(3) Licensee shall note, in any recording of water production for the period of this License, that said pumping was done pursuant to this License.

(4) Licensee shall be entitled to the rights and subject to the obligations and liabilities contained in a Supplemental License Agreement dated February 1, 1970 between Licensor and Licensee.

Licensor warrants that it has two hundred thirty-nine (239) acre-feet of Restricted Pumping and that he has not pumped and will not pump or permit or license any other person to pump any part of the thirty-two (32) acre-feet granted by this License during the period of February 1, 1970 through September 30, 1972.


This License is entered into as of the 1st day of February , 1970.

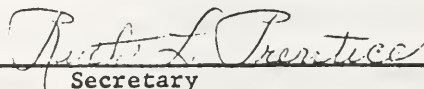
LOCKHEED AIRCRAFT CORPORATION

By   
Attorney-in-Fact

RFK

RIVERWOOD RANCH MUTUAL WATER COMPANY

By   
President

By   
Secretary

WATER LICENSE AGREEMENT

FOREST LAWN COMPANY (Licensor) grants to SOUTHERN SERVICE COMPANY, LTD. (Licensee): a license to extract 30 acre-feet of Licensor's Restricted Pumping allocated to Licensor (or predecessors in interest) under and pursuant to Judgment dated March 14, 1968, and entered in Los Angeles Superior Court Case No. 650,079 entitled "The City of Los Angeles, Plaintiff vs. City of San Fernando, et al., Defendants", during the period commencing June 1, 1970, and continuing to and including September 30, 1970.

Said License is granted, subject to the following conditions:

- (1) Licensee shall exercise said right and extract the same on behalf of Forest Lawn Company during the period above specified and put the same to beneficial use and Licensee shall not by the exercise hereunder of said right acquire any right to extract water independent of the rights of Licensor.
- (2) Licensee shall notify the Watermaster that said pumping was done pursuant to this License and provide the Watermaster with a copy of the document.
- (3) Licensee shall note, in any recording of water production for the period of agreement, that said pumping was done pursuant to this License.

FOREST LAWN COMPANY warrants that it has 30 acre-feet of Restricted Pumping and that it has not pumped and will not pump or permit or license any other person to pump any part of said 30 acre-feet during period of June 1, 1970 through September 30, 1970.

DATED: June 5, 1970.

FOREST LAWN COMPANY

SOUTHERN SERVICE COMPANY, LTD.

BY: *M. A. Bulante*

TITLE: President

BY: *J. ...*

TITLE: Vice President

WATER LICENSE AGREEMENT

FOREST LAWN COMPANY (Licensor) grants to SOUTHERN SERVICE COMPANY, Ltd. (Licensee): a license to extract 90 acre-feet of Licensor's Restricted Pumping allocated to Licensor (or predecessors in interest) under and pursuant to Judgment dated March 14, 1968, and entered in Los Angeles Superior Court Case No. 650,079 entitled "The City of Los Angeles, Plaintiff vs. City of San Fernando, et al., Defendants", during the period commencing July 6, 1970, and continuing to and including September 30, 1970.

Said License is granted, subject to the following conditions:

- (1) Licensee shall exercise said right and extract the same on behalf of Forest Lawn Company during the period above specified and put the same to beneficial use and Licensee shall not by the exercise hereunder of said right acquire any right to extract water independent of the rights of Licensor.
- (2) Licensee shall notify the Watermaster that said pumping was done pursuant to this License and provide the Watermaster with a copy of the document.
- (3) Licensee shall note, in any recording of water production for the period of agreement, that said pumping was done pursuant to this License.

FOREST LAWN COMPANY warrants that it has 90 acre-feet of Restricted Pumping and that it has not pumped and will not pump or permit or license any other person to pump any part of said 90 acre-feet during period of July 6, 1970 through September 30, 1970.

DATED: July 6, 1970.

FOREST LAWN COMPANY

SOUTHERN SERVICE COMPANY, LTD.

By: James A. Rasmussen  
Title: Vice President

By: J. A. W. [Signature]  
Title: President



WATER LICENSE AGREEMENT

FOREST LAWN COMPANY (Licensor) grants to SPORTSMEN'S LODGE, INC.

(Licensee): a license to extract 8 acre-feet of Licensor's Restricted Pumping allocated to Licensor (or predecessors in interest) under and pursuant to Judgment dated March 14, 1968, and entered in Los Angeles Superior Court Case No. 650,079 entitled "The City of Los Angeles, Plaintiff vs. City of San Fernando, et al., Defendants", during the period commencing June 1, 1970, and continuing to and including September 30, 1970.

Said License is granted, subject to the following conditions:

- (1) Licensee shall exercise said right and extract the same on behalf of Forest Lawn Company during the period above specified and put the same to beneficial use and Licensee shall not by the exercise hereunder of said right acquire any right to extract water independent of the rights of Licensor.
- (2) Licensee shall notify the Watermaster that said pumping was done pursuant to this License and provide the Watermaster with a copy of the document.
- (3) Licensee shall note, in any recording of water production for the period of agreement, that said pumping was done pursuant to this License.

FOREST LAWN COMPANY warrants that it has 15 acre-feet of Restricted Pumping and that it has not pumped and will not pump or permit or license any other person to pump any part of said 15 acre-feet during period of June 1, 1970 through September 30, 1970.

DATED: 6/12/70

FOREST LAWN COMPANY

SPORTSMEN'S LODGE, INC.

By J. W. [Signature]

Title Vice President

By Leonard M. Harleg

Title president

WATER USE LICENSE AGREEMENT

LOCKHEED AIRCRAFT CORPORATION (hereinafter referred to as "Licensor") hereby grants SPORTSMEN'S LODGE CORP., 12833 Ventura Boulevard, North Hollywood, California 91604 (hereinafter referred to as "Licensee") a license to extract six (6) acre-feet of water of Licensor's Restricted Pumping allocated to Licensor under and pursuant to Judgment dated March 14, 1968, and entered in Los Angeles Superior Court, Case No. 650,079 entitled "The City of Los Angeles, Plaintiff vs. City of San Fernando, et al, Defendants" during the period commencing December 1, 1969 and continuing to and including September 30, 1972.

Said License is granted, subject to the following conditions:

(1) Licensee shall exercise said right and extract the same on behalf of Licensor during the period above specified and put the same to beneficial use and Licensee shall not by the exercise hereunder of said right acquire any right to extract water independent of the rights of Licensor.

(2) Licensee shall notify the Watermaster that said pumping was done pursuant to this License and provide the Watermaster with a copy of this License.

(3) Licensee shall note, in any recording of water production for the period of this License, that said pumping was done pursuant to this License.

(4) Licensee shall be entitled to the rights and subject to the obligations and liabilities contained in a Supplemental

License Agreement dated December 1, 1969 between Licensor and Licensee.

Licensor warrants that it has two hundred thirty-nine (239) acre-feet of Restricted Pumping and that he has not pumped and will not pump or permit or license any other person to pump any part of the six (6) acre-feet granted by this License during the period of December 1, 1969 through September 30, 1972.

This License is entered into as of the first day of December, 1969.

LOCKHEED AIRCRAFT CORPORATION

By   
Attorney-in-Fact

SPORTSMEN'S LODGE CORP.

By 

WATER USE LICENSE AGREEMENT

Van de Kamp's hereby grants to Sportsman's Lodge: a license to extract 10 acre-feet of licensor's Restricted Pumping allocated to licensor (or predecessors in interest) under and pursuant to Judgment dated March 14, 1968, and entered in Los Angeles Superior Court Case No. 650,079 entitled "The City of Los Angeles, Plaintiff vs. City of San Fernando, et al., Defendants", during the period commencing October 1, 1969 and continuing to and including September 30, 1970.

Said License is granted, subject to the following conditions:

- (1) Licensee shall exercise said right and extract the same on behalf of Van de Kamp's during the period above specified and put the same to beneficial use and licensee shall not by the exercise hereunder of said right acquire any right to extract water independent of the rights of licensor.
- (2) Licensee shall notify the Watermaster that said pumping was done pursuant to this license and provide the Watermaster with a copy of the document.
- (3) Licensee shall note, in any recording of water production for the period of agreement, that said pumping was done pursuant to this license.

Van de Kamp's warrants that he has 10 acre-feet of Restricted Pumping and that he has not pumped and will not pump or permit or license any other person to pump any part of said 10 acre-feet during period of October 1, 1969 through September 30 1970.

DATED: September 13 1970

VAN de KAMP'S

SPORTSMAN'S LODGE

By James G. Karsatos  
James G. Karsatos  
Title, Vice President-Finance & Systems

By Leonard Haraji  
Leonard Haraji  
Title owner

## WATER USE LICENSE AGREEMENT

ELLEN S. DuBOIS and WM. O. BARTHOLOMAUS (hereinafter referred to as 'Licensors') hereby grant to TOLUCA LAKE PROPERTY OWNERS ASSOCIATION, a non-profit corporation, (hereinafter referred to as Licensee) a license to extract 15 acre-feet of water of Licensors' Restricted Pumping allocated to Licensors under and pursuant to Judgment dated March 14, 1968, and entered in Los Angeles Superior Court, Case No. 650,079, entitled The City of Los Angeles, plaintiff, vs. City of San Fernando, et al., defendants, during the period commencing October 1, 1969, and continuing to and including September 30, 1970.

Said License is granted subject to the following conditions:

1) Licensee shall exercise said rights and extract the same on behalf of Licensors during the period above specified and put the same to beneficial use, and Licensee shall not by the exercise hereunder of said right acquire any right to extract water independent of the rights of Licensors.

2) Licensee shall notify the watermaster that said pumping was done pursuant to this License and provide the watermaster with a copy of this License.

3) Licensee shall note, in any recording of water production for the period of this License, that said pumping was done pursuant to this License.

4) Licensee shall be entitled to the rights and subject to the obligations and liabilities contained in a Supplemental License Agreement dated July 7, 1970, between Licensors and Licensee.

5) Licensors warrant that they have fifteen (15) acre-feet of Restricted Pumping plus an additional carry-over



credit of one and one half (1-1/2) acre-feet, thus making a total of sixteen and one half (16-1/2) acre-feet to be pumped, and that they have not pumped and will not pump or permit or license any other person to pump any part of the sixteen and one half (16-1/2) acre-feet granted by this License during the period of October 1, 1969, through September 30, 1970.

This License is entered into as of the       7th       day of July, 1970.

Ellen S. DuBois

Ellen S. DuBois

William Oscar Bartholomaeus

by Ellen S. DuBois, Attorney in Fact  
Wm. O. Bartholomaeus

Licensors

TOLUCA LAKE PROPERTY OWNERS  
ASSOCIATION

By:

Jack French

President

Licensee

WATER USE LICENSE AGREEMENT

LOCKHEED AIRCRAFT CORPORATION (hereinafter referred to as "Licensor") hereby grants to VALHALLA MEMORIAL PARK, a non-profit California corporation, 10621 Victory Boulevard, North Hollywood, California 91606 (hereinafter referred to as "Licensee") a license to extract twenty (20) acre-feet of water of Licensor's Restricted Pumping allocated to Licensor under and pursuant to Judgment dated March 14, 1968, and entered in Los Angeles Superior Court, Case No. 60,079 entitled "The City of Los Angeles, Plaintiff vs. City of San Fernando, et al, Defendants" during the period commencing February 1, 1970 and continuing to and including September 30, 1972.

Said License is granted, subject to the following conditions:

(1) Licensee shall exercise said right and extract the same on behalf of Licensor during the period above specified and put the same to beneficial use and Licensee shall not by the exercise hereunder of said right acquire any right to extract water independent of the rights of Licensor.

(2) Licensee shall notify the Watermaster that said pumping was done pursuant to this License and provide the Watermaster with a copy of this License.

(3) Licensee shall note, in any recording of water production for the period of this License, that said pumping was done pursuant to this License.

(4) Licensee shall be entitled to the rights and subject to the obligations and liabilities contained in a Supplemental License Agreement dated February 1, 1970 between Licensor and Licensee.


Licensor warrants that it has two hundred thirty-nine (239) acre-feet of Restricted Pumping and that he has not pumped and will not pump or permit or license any other person to pump any part of the twenty (20) acre-feet granted by this License during the period of February 1, 1970 through September 30, 1972.

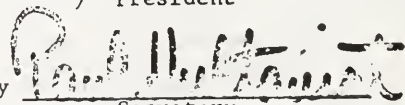
This License is entered into as of the first day of February, 1970.

LOCKHEED AIRCRAFT CORPORATION

By   
Attorney-in-Fact

VALHALLA MEMORIAL PARK

By   
President

By   
Secretary

WATER USE LICENSE AGREEMENT

Van de Kamp's hereby grants to Mrs. Alice Wright : a license to extract 18 acre-feet of licensor's Restricted Pumping allocated to licensor (or predecessors in interest) under and pursuant to Judgment dated March 14, 1968, and entered in Los Angeles Superior Court Case No. 650,079 entitled "The City of Los Angeles, Plaintiff vs. City of San Fernando, et al., Defendants", during the period commencing October 1, 1969 and continuing to and including September 30, 1970.

Said License is granted, subject to the following conditions:

- (1) Licensee shall exercise said right and extract the same on behalf of Van de Kamp's during the period above specified and put the same to beneficial use and licensee shall not by the exercise hereunder of said right acquire any right to extract water independent of the rights of licensor.
- (2) Licensee shall notify the Watermaster that said pumping was done pursuant to this license and provide the Watermaster with a copy of the document.
- (3) Licensee shall note, in any recording of water production for the period of agreement, that said pumping was done pursuant to this license.

Van de Kamp's warrants that he has 18 acre-feet of Restricted Pumping and that he has not pumped and will not pump or permit or license any other person to pump any part of said 18 acre-feet during period of October 1, 1969 through September 30, 1970.

DATED: September 28, 1970

VAN de KAMP'S

Mrs. Alice Wright

By James G. Karsatos  
James G. Karsatos  
Title Vice President-Finance & Systems

By Alice M. Wright  
Title \_\_\_\_\_



# City of San Fernando

CITY HALL, SAN FERNANDO, CALIFORNIA

EMPIRE 5-2541

December 18, 1969

Mr. Mel Blevins  
Los Angeles Dept. of Water and Power  
111 North Hope Street  
Los Angeles, California 90054

Re: Estimated 1969-70 Water Use by San Fernando

Dear Mr. Blevins:

It is estimated by the City of San Fernando that the water use of this City will be 3077 acre feet for the 1969-70 water year.

This estimate takes into account pumping of 300 acre feet over and above the San Fernando allowable, unrestricted use of 2,777 acre feet, which 300 acre feet would be purchased from the City of Los Angeles from their allowable pumping.

Very truly yours,

R. E. James  
City Engineer/Administrative Officer

By:

S. E. Bergman  
Administrative Engineering Aide

cc: Mr. James J. Doody  
Watermaster  
Upper Los Angeles River Area  
Dept. of Water Resources  
P. O. Box 6508  
Los Angeles, California 90055  
Attn: Carlos Madrid, Deputy Watermaster



WATER USE LICENSE AGREEMENT

JOHN DOE hereby grants to BILL SMITH: a license to extract \_\_\_\_\_ acre-feet of licensor's Restricted Pumping allocated to licensor (or predecessors in interest) under and pursuant to Judgment dated March 14, 1968, and entered in Los Angeles Superior Court Case No. 650,079 entitled "The City of Los Angeles, Plaintiff vs. City of San Fernando, et al., Defendants", during the period commencing October 1, 19\_\_ and continuing to and including September 30, 19\_\_.

Said License is granted, subject to the following conditions:

- (1) Licensee shall exercise said right and extract the same on behalf of JOHN DOE during the period above specified and put the same to beneficial use and licensee shall not by the exercise hereunder of said right acquire any right to extract water independent of the rights of licensor.
- (2) Licensee shall notify the Watermaster that said pumping was done pursuant to this license and provide the Watermaster with a copy of the document.
- (3) Licensee shall note, in any recording of water production for the period of agreement, that said pumping was done pursuant to this license.

JOHN DOE warrants that he has \_\_\_\_\_ acre-feet of Restricted Pumping and that he has not pumped and will not pump or permit or license any other person to pump any part of said \_\_\_\_\_ acre-feet during period of October 1, 19\_\_ through September 30, 19\_\_.

DATED: \_\_\_\_\_

JOHN DOE

BILL SMITH

By \_\_\_\_\_

By \_\_\_\_\_

Title \_\_\_\_\_

Title \_\_\_\_\_

(NOTARY)

DEED OF WATER RIGHTS

For a valuable consideration, BILL SMITH hereby sells and transfers to the JOHN DOE COMPANY:

The Right to extract \_\_\_\_\_ acre-feet of grantor's Mutually Prescriptive Right ( \_\_\_\_\_ acre-feet of Restricted Pumping) allocated to grantor (or predecessors in interest) under and pursuant to Judgment dated March 14, 1968, and entered in Los Angeles Superior Court Case No. 650,079 entitled "The City of Los Angeles, Plaintiff vs. City of San Fernando, et al., Defendants".

DATED: \_\_\_\_\_

JOHN DOE COMPANY

BILL SMITH

By \_\_\_\_\_

By \_\_\_\_\_

Title \_\_\_\_\_

Title \_\_\_\_\_

(NOTARY)

## APPENDIX B

### GROUND WATER EXTRACTIONS



TABLE A-1  
GROUND WATER EXTRACTIORS  
IN ACRF-FEET

STAFF NUMBER	OWNER'S OFFICE NATION	PRODUCTION												TOTAL	
		1965			1970										
		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT		

SAN FERNANDO BASIN														
RIPRANK, CITY OF														
1N/14W-090075	144	721.99	0	0	113.14	28.34	0	27.38	60.50	303.55	326.40	323.43	313.55	1818.28
1N/14W-090045	17	190.90	72.00	0	0	28.81	75.23	0	196.93	16.28	192.60	189.98	186.07	1148.80
1N/14W-090025	12	38.25	0	0	0	31.78	69.24	0	164.83	193.53	221.68	215.66	200.56	1135.53
1N/14W-090035	9	165.20	24.34	0	0	0	1.61	30.02	7.17	12.79	56.68	49.68	60.97	408.46
1N/14W-090015	10	7.10	42.67	0	21.76	61.60	20.70	0	54.21	42.54	184.40	179.92	136.65	751.64
1N/14W-090045	11A	14.35	14.07	149.07	50.57	90.74	30.56	0	64.72	97.64	215.44	218.82	59.16	1005.04
1N/14W-090025	13A	79.53	75.66	101.99	156.66	0	44.62	227.60	177.81	249.25	237.73	247.25	231.46	1784.56
1N/14W-090045	18	223.55	0	0	0	22.14	0	0	218.18	194.88	176.84	211.73	207.21	1254.55
1N/14W-090015	6A	0	190.41	0	0	12.30	2.92	306.15	267.24	244.03	271.99	297.31	279.78	1872.33
1N/14W-110015	7	96.91	88.12	129.35	87.77	98.20	130.44	125.05	123.58	115.73	126.54	124.94	116.39	1363.02
1N/14W-140005	15	91.30	82.78	120.66	82.35	94.80	125.14	119.96	119.38	112.83	121.94	120.31	117.07	1303.60
TOTALS		1189.08	590.20	501.07	512.25	468.90	500.46	811.16	1454.55	1583.05	2132.24	2179.03	1903.87	13845.81

CALIFORNIA MATERIALS COMPANY														
2N/14W-100015	492A	77.24	28.25	33.00	31.72	27.01	27.87	30.28	29.60	30.47	30.03	24.46	23.53	353.46

CONSOLIDATED ROCK PRODUCTS COMPANY														
2N/14W-100075	2	84.06	66.30	72.91	56.13	44.50	60.33	69.93	74.38	80.08	80.51	62.27	66.51	817.91
2N/14W-100045	3	79.09	60.56	68.85	56.42	44.32	57.44	64.35	71.06	72.25	72.49	55.64	60.20	762.67
TOTALS		163.15	126.86	141.76	112.55	88.82	117.77	134.28	145.44	152.33	153.00	117.91	126.71	1580.58

FOREST LAWN CEMETERY ASSN. FT. AL														
1N/17W-130075	3	18.29*	11.88*	11.19*	10.90*	3.55*	7.95*	15.92*	17.64*	15.24*	8.55*	0*	0	121.09
1N/17W-130035	4	0	0	0	0	0	0	0	32.23	32.22	41.45	43.02	45.10	194.02
1N/17W-130015	6	12.66	0	0	0	0	0	7.26	12.41	11.09	11.74	11.11	10.69	76.96
15/17W-040015	7	21.87	15.86	15.42	15.34	8.54	12.50	16.21	18.92	19.06	19.84	18.90	16.43	199.09
TOTALS		52.82	27.72	26.61	26.24	12.00	20.45	39.39	81.20	77.61	81.58	73.03	72.42	591.16

GLENDALE, CITY OF														
1N/17W-190015	CVMT	1158.20	481.66	589.84	577.87	530.92	558.54	488.26	745.13	1074.73	1642.78	1725.33	1154.21	10729.47
1N/17W-190045	ST01	1.92	3.06	1.28	2.92	1.97	3.59	2.40	17.72	31.08	17.46	12.58	13.27	109.25
1N/17W-190045	ST02	125.43	115.20	120.44	105.11	102.34	113.50	103.66	88.93	49.81	104.30	145.18	133.10	1307.02
TOTALS		1285.55	601.92	711.56	685.90	635.25	675.63	594.32	851.78	1155.62	1764.54	1883.09	1300.58	12145.74

HARRIS, CECILIA OF MILL														
2N/14W-050025	CFRG	.88*	.41*	.70*	.39*	.47*	.47*	.74*	.75*	.86*	1.38*	2.07*	1.54*	10.66
2N/14W-050015	WYCF	4.58*	2.68*	1.84*	1.17*	.71*	.69*	2.53*	1.08*	3.39*	2.81*	1.49*	4.73*	27.72
TOTALS		5.46	3.09	2.54	1.56	1.20	1.16	3.27	1.83	4.25	4.19	3.56	6.27	38.38

LIVINGSTON-GRAHAM, INC.														
2N/14W-100015	SHND	20.37*	9.72*	15.49*	7.07*	12.17	19.03	22.24	22.39	21.63	20.53	21.38	20.64	212.82
2N/14W-190015	SHVAL	30.94*	27.16*	24.43*	24.13*	26.66	24.95	28.36	26.30	29.01	27.78	21.40	21.99	308.31
TOTALS		51.27	32.08	40.12	31.20	38.83	43.98	50.60	48.69	50.64	48.31	42.78	42.63	521.13

LOS ANGELES, CITY OF-DEPT W/P															
1N/17W-19	5	CS-CH	399.22	280.74	0	0	564.74	744.03	654.27	539.94	483.24	439.39	369.15	285.58	4760.32
1N/17W-190015	CS-51		.55	.79	0	0	.02	.24	.03	.25	.00	0	0	0	1.38
1N/14W-050015	NH-16		71.84	55.24	0	2.80	22.20	0	0	12.40	14.19	0	0	0	138.69
1N/14W-050015	NH-18		173.06	60.93	0	9.00	0	0	0	12.14	80.85	0	0	0	295.98
1N/14W-050025	NH-17		0	0	0	8.18	22.68	0	0	25.10	75.00	0	0	0	131.36
1N/14W-060015	NH-39		0	0	0	0	0	0	0	0	0	0	0	0	123.78
1N/14W-060015	NH-24		0	0	0	8.75	1.10	0	0	9.55	0	100.07	278.24	0	307.71
1N/14W-060015	NH-2		0	0	0	9.99	.64	0	0	10.26	78.14	197.64	0	0	296.51
1N/14W-060025	NH-30		168.34	0	0	3.42	0	0	0	11.27	86.20	217.42	0	0	486.65
1N/14W-060015	NH-5		0	0	0	6.70	0	0	0	7.53	0	81.96	192.38	0	288.57
1N/14W-060025	NH-11		0	0	0	20.75	0	0	0	36.73	144.95	240.27	0	0	442.70
1N/14W-060015	NH-13		0	0	0	2.13	0	0	0	7.32	0	0	0	0	9.45
1N/14W-060075	NH-14		0	0	0	8.01	0	0	0	10.70	0	0	0	0	59.27
1N/14W-060055	NH-29		0	0	0	2.73	0	0	0	11.80	0	0	171.79	0	186.32
1N/14W-060075	NH-38		0	0	0	0	0	0	0	0	0	0	0	8.31	8.31
1N/14W-060055	NH-29		0	0	0	0	0	0	0	0	0	0	0	0	0
1N/14W-060015	NH-11		0	0	0	2.27	15.79	0	0	24.91	0	178.44	231.59	0	453.00
1N/14W-060055	NH-27		0	0	0	2.50	0	0	0	18.94	17.88	0	0	0	39.32
1N/14W-060075	NH-28		0	0	0	3.42	24.00	0	0	24.10	12.14	373.53	362.00	13.41	812.76
1N/14W-060015	NH-35		0	0	0	10.06	0	0	0	284.94	246.28	287.47	305.00	369.93	1855.38
1N/14W-070015	F-10		207.53	51.84	0	8.84	0	81.45	245.25	241.64	238.73	231.36	215.36	196.72	1738.72
1N/14W-070035	F-6		154.48	0	0	33.36	0	71.95	220.27	241.16	228.76	230.46	225.05	180.33	1585.82
1N/14W-080015	NH-21		17.70	0	0	2.62	0	0	0	66.12	0	0	44.51	194.51	323.94
1N/14W-080025	NH-20		62.17	0	0	6.63	0	0	0	42.24	60.63	0	0	0	191.67
1N/14W-080035	NH-35		0	0	0	4.84	0	0	0	46.12	0	0	32.76	143.00	227.52
1N/14W-080015	NH-19		32.30	55.65	0	8.47	0	0	0	12.03	78.05	0	0	0	186.50
1N/14W-080015	W-2		254.59	57.09	0	12.21	0	0	0	350.60	317.14	342.61	341.21	32.92	1728.48

TABLE A-1  
GROUND WATER EXTRACTIORS  
(CONTINUED)  
IN ACRE-FEET

		PRODUCTION													TOTAL
STATE	OWNER	1969					1970								
WELL	DESIGNATION	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT		
NUMBER	NATION														
LOS ANGELES, CITY OF-DEPT W/P															
(CONTINUED)															
1N/14W-08F015	W-3	266.48	50.90	0	10.95	0	0	205.03	282.58	268.71	267.63	262.49	25.32	1640.09	
1N/14W-08F015	W-4	315.79	52.02	0	12.67	0	0	148.32	124.06	311.91	317.03	313.02	10.12	1806.94	
1N/14W-08J015	F-5	255.42	62.42	0	22.61	0	157.37	302.94	324.52	293.57	300.60	285.10	216.30	2220.85	
1N/14W-08J015	F-7	181.89	44.08	0	31.93	0	54.43	225.00	241.67	220.55	224.77	209.23	164.83	1607.47	
1N/14W-08J045	F-1	0	0	0	9.48	0	0	263.66	267.10	263.66	247.91	193.11	1244.94	1750.09	
1N/14W-08L015	W-5	339.58	55.62	0	13.80	0	0	347.68	325.60	333.91	323.39	10.51	1750.09	1947.68	
1N/14W-08L025	F-4	208.82	50.39	0	31.63	0	137.60	266.21	283.65	267.41	258.08	246.83	201.06	1251.35	
1N/14W-08R015	W-7	18.06	45.73	0	9.96	8.47	20.89	221.12	242.22	228.44	219.77	208.56	6.13	2195.42	
1N/14W-15N015	W-2	289.90	57.67	0	19.31	82.97	191.83	283.47	285.15	266.02	266.81	255.62	198.74	2195.42	
1N/14W-15P015	W-4	225.06	45.11	0	15.01	36.55	224.20	207.32	197.02	178.42	169.63	154.91	117.77	1571.90	
1N/14W-16N015	W-9	0	0	0	0	0	0	118.55	0	0	73.32	97.59	289.46	1320.92	
1N/14W-17A015	W-8	0	0	0	7.12	0	44.67	134.85	174.66	158.22	150.67	123.85	3.58	797.62	
1N/14W-21R015	V-13	0	0	0	3.15	0	0	63.87	70.50	67.29	61.20	54.91	320.92	1794.15	
1N/14W-21C015	V-16	0	0	0	0	0	0	0	185.35	191.64	185.42	173.19	170.29	2119.83	
1N/14W-21G015	V-24	224.26	44.19	0	15.36	29.04	229.11	218.73	222.96	211.29	215.40	213.52	170.29	1794.15	
1N/14W-22R015	V-11	252.27	51.03	0	17.75	43.62	272.13	258.52	261.21	244.76	255.69	258.72	200.11	2119.83	
1N/14W-22C015	V-1	208.40	41.80	0	14.14	34.27	221.56	209.50	213.36	200.60	202.48	201.24	155.49	1702.84	
1N/14W-23	5 DGT-4	192.49	143.94	188.02	53.03	36.27	216.40	196.40	217.69	168.39	256.43	127.53	200.66	2117.43	
1N/14W-24N015	H-26	72.20	0	0	0	244.38	283.00	257.23	258.38	238.75	233.70	221.65	201.45	2011.14	
1N/14W-24N065	H-27	143.48	141.76	0	0	137.51	269.28	219.58	213.04	196.17	193.07	185.49	171.81	1871.19	
1N/14W-24N065	H-28	417.81	151.06	4.25	0	124.08	0	316.92	414.49	397.15	406.45	402.20	392.27	3026.63	
1N/14W-24N065	H-29	434.23	208.55	509.99	200.87	289.94	485.42	427.46	429.41	404.04	406.11	396.12	359.62	4641.76	
1N/14W-24N065	H-25	104.11	38.68	0	0	231.86	266.53	244.83	242.88	220.19	213.50	199.95	183.77	1946.50	
1N/14W-24N035	CS-52	169.77	103.76	106.01	85.78	88.90	125.12	181.33	172.25	187.34	184.25	187.65	156.70	1748.95	
1N/15W-01K015	NH-15	0	0	0	2.66	0	0	0	9.39	95.94	25.78	38.64	0	172.41	
1N/15W-01K025	NH-34	177.19	0	0	2.98	0	0	0	10.77	183.79	0	0	0	334.73	
1N/15W-01K045	NH-36	0	0	0	4.66	0	0	0	14.49	0	0	363.02	0	382.37	
1N/15W-01K055	NH-37	0	0	0	11.46	0	0	0	15.11	0	0	384.14	0	410.71	
1N/15W-01P045	NH-25	0	0	0	10.03	0	0	0	14.33	0	144.81	342.49	0	511.66	
1N/15W-01Q025	NH-22	0	0	0	10.40	0	0	0	10.97	206.70	216.71	0	0	445.29	
1N/15W-01R035	NH-23	276.50	0	0	11.55	0	0	36.39	142.13	237.81	177.36	0	0	841.74	
1N/15W-01Q045	NH-24	0	0	0	3.49	6.00	0	0	12.14	230.53	375.80	209.21	0	831.77	
1N/15W-02D015	NH-7	0	0	0	5.26	0	0	0	0	0	0	0	0	5.26	
1N/15W-02R025	NH-32	195.87	0	0	7.37	0	118.41	0	10.33	0	110.35	40.06	0	482.39	
1N/15W-02R015	NH-4	0	0	0	2.25	0	0	0	7.54	0	85.01	30.83	0	125.67	
1N/15W-02R025	NH-33	0	0	0	7.51	0	0	0	8.24	0	103.90	37.67	0	157.32	
1S/13W-04K015	D-7	78.43	14.58	0	0	0	0	0	0	0	0	0	0	53.49	
1S/13W-04L025	D-4	110.88	38.45	0	0	0	0	0	0	0	0	0	0	149.33	
1S/13W-04L035	D-6	176.13	47.52	0	0	0	0	0	0	0	0	0	0	183.65	
1S/13W-04L045	D-5	147.04	52.92	0	0	0	0	0	0	0	0	0	0	199.96	
2N/14W-13D015	TGDLT	17.20	10.72	9.41	12.44	15.63	25.23	20.98	18.02	14.30	11.75	10.90	9.34	171.92	
2N/14W-13D045	WHDPT	0	0	0	0	0	0	0	0	0	0	0	0	0.02	
2N/14W-13D055	LGRND	11	0	0	0	0	0	0	0	0	0	0	0	0.05	
2N/14W-13E025	RDNH0	1.16	0.7	0	0.02	0	0	0	0	0	0	0	0	0.35	
2N/14W-13F035	FTHL3	0.02	0.05	0	0.05	0	0	0	0	0	0	0	0	0.26	
2N/14W-13E045	FTHL2	0.05	0.05	0	0.02	0	0	0	0	0	0	0	0	0.25	
2N/14W-14A015	FNWU1	0	0.07	0	0.02	0	0	0	0	0	0	0	0	0.18	
TOTALS		7103.40	2252.11	817.68	846.67	2055.71	4241.68	5668.00	8149.50	8595.25	9831.13	9788.92	5223.50	64591.57	
LOS ANGELES, CITY OF-DEPT W/P (RESERVED)**															
1N/14W-03D045	D-10	0.02	0	0	0	0	0	0	0	0	0	8.17	0	8.19	
1N/14W-03D075	D-2	41.83	54.25	88.13	76.24	66.35	23.78	76.38	98.69	91.40	82.90	50.67	67.33	818.15	
2N/14W-27F025	D-8	0	0	0	0	0	0	0	0	0	0	0	0	29.61	
2N/14W-27D025	D-9	8.26	12.51	17.15	14.76	12.21	4.52	14.85	19.10	16.67	14.65	12.33	18.57	145.03	
2N/14W-34G025	D-6	21.49	25.42	37.38	35.10	28.65	12.17	31.88	45.62	48.88	39.74	26.45	39.65	392.35	
2N/14W-34K025	D-5	11.87	17.08	25.92	24.08	20.29	8.24	23.09	28.49	24.93	22.27	16.57	24.84	247.67	
TOTALS		87.47	109.66	168.50	149.68	127.50	48.71	146.00	191.90	182.03	159.56	106.02	188.17	1661.00	
MENA, JOHN AND BARBARA															
2N/14W-11N015	4973J	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	.96	
MONTANA LAKE ASSOCIATION, INC															
2N/14W-08J015	4722	0.64	0.61	0.37	0	1.88	0	0	1.40	0.84	1.10	0.59	0.01	6.31	
PIEDMONT RANCH MUTUAL WATER COMPANY															
2N/14W-11A015	4982	0	0	0	0	0	0	.81	2.73	2.83	8.46	7.61	8.19	30.63	
SEARS, JOSEPH AND COMPANY															
1N/13W-20R015	7945	19.08	19.08	19.08	19.08	10.31	20.62	30.81	57.30	44.71	36.06	56.96	50.64	383.73	
SOUTHERN SERVICE COMPANY															
1N/13W-20F015	MFTR1	2.54	2.18	2.29	2.56	2.38	2.19	1.11	0	2.13	2.40	2.27	2.33	23.33	
1N/13W-20F015	MFTR2	2.47	2.17	2.27	2.44	2.37	2.31	1.11	0	2.02	2.43	2.21	2.44	23.43	
1N/13W-20F015	MFTR3	2.73	2.26	2.21	2.44	2.37	2.23	1.11	0	2.20	2.43	2.29	2.54	23.79	
TOTALS		7.49	6.61	6.79	7.44	7.08	6.73	3.33	0	6.35	7.26	6.77	7.31	70.55	



TABLE H-1  
GROUND WATER EXTRACTIIONS  
(CONTINUED)  
IN ACRE-FEET

		OWNERS :				PRODUCTION										TOTAL		
STATE :	WELL :	DESIGN :	1949				1970											
NUMBER :	NATION :	OCT :	NOV :	DEC :	JAN :	FEB :	MAR :	APR :	MAY :	JUNE :	JULY :	AUG :	SEPT :					
SPORTSMEN LODGE, INCORPORATED																		
1N/14W-250015	1	9.17*	0	4.08	2.64	3.00	1.13	1.41	1.93	2.17	1.97	3.45	1.98	33.01				
TOLUCA LAKE PROPERTY OWNERS ASSN																		
1N/14W-280015	7845F	1.80	3.71	3.56	6.72	6.26	6.76	4.08	2.12	1.34	.90	.67	1.10	39.00				
VALHALLA MEMORIAL PARK																		
1N/14W-060015	4	12.45	.82	2.32	0	0	7.08	22.22	10.20	28.96	28.81	29.83	30.33	192.02				
1N/14W-090045	2	0	.27	0	.31	0	.68	2.84	.93	.70	5.74	0	.12	11.59				
TOTALS		12.45	1.09	2.32	.31	0	7.76	25.06	11.13	29.66	34.55	28.83	30.45	203.61				
VAN DE KAMPS HOLLAND DUTCH BAKERS, INC																		
15/17W-060015	1	.79	.04	.28	.13	0	0	.02	.09	.29	.37	.42	.36*	2.77				
WALT DISNEY PRODUCTIONS																		
1N/14W-230015	EAST	35.44	37.70	54.24	50.74	49.30	45.30	58.51	41.58	37.38	75.58	44.19	51.24	581.48				
1N/14W-230025	EAST	122.76	100.25	80.12	61.56	66.47	78.11	146.04	56.23	122.70	152.43	136.88	139.47	1261.22				
TOTALS		158.20	137.95	134.36	112.30	113.86	123.41	204.55	97.81	160.08	228.01	181.07	190.71	1842.70				
WESTERN OIL AND GAS ASSOCIATION (nonparty)																		
CON		35.30*	52.42*	60.26*	55.70*	39.06	3.47	4.38	10.31	9.90	16.32	15.91	16.14	319.15				
NONP		1.78*	2.72*	2.72	2.92	7.37	25.00	7.21	14.28	9.90	25.22	21.13	16.45	136.79				
SDBCA		0	0	0	0	0	0	0	0	0	0	2.07	16.16	18.23				
TOTALS		37.10	55.14	62.96	58.62	46.41	28.47	11.59	24.59	19.80	41.54	39.11	48.75	474.17				
WRIGHT, J MARION, ESTATE OF																		
1N/17W-230025	1937F	0	1.00*	0*	0*	.40*	0*	2.26*	1.31*	.28*	1.87*	1.32*	.79*	9.28				
SUBTOTALS - SAN FERNANDO BASIN																		
		10218.74	3997.00	2676.87	3664.60	5872.67	7778.30	12699.77	14565.63	9228.03	98625.55							
SYLMAR BASIN																		
ROJCE CASPARE BUILDING COMPANY																		
3N/15W-250015	LOWE	.46*	.31*	1.72*	.86*	0*	0	0*	0*	0*	0	0	3.35					
3N/15W-251015	3	0*	1.15*	.32*	.49*	1.17*	.47*	.87	2.10*	3.14*	1.37*	2.20*	2.54*	15.82				
TOTALS		.46	1.46	2.04	1.35	1.17	.47	.87	2.10	3.14	1.37	2.20	2.54	19.17				
BROWN, CHARLES T.																		
3N/15W-3403	1	1.11*	0.07*	0*	0*	0*	0*	0*	0*	1.17*	1.83*	0.98*	1.83*	6.99*				
CHURCH OF JESUS CHRIST OF L D SAINTS																		
3N/15W-200015	1	30.09	8.31	18.05	6.74	0	0	26.43	30.42	51.83	30.84	33.05	36.53	272.87				
LDS ANGELS, CITY OF DEPT W/P																		
2N/15W-06	S MISSN	374.79	171.61	15.75	0	0	105.42	428.90	417.24	378.88	370.48	364.03	14.90	2843.90				
METROPOLITAN WATER DISTRICT OF SD CAL (nonparty)																		
3N/15W-36F	S TUNN	.82*	.13*	1.77*	2.74*	11.14*	13.70*	39.77	9.97	6.50	6.42	5.43	4.43	102.02				
SAN FERNANDO, CITY OF																		
3N/15W-360015	4	40.93	18.32	34.81	9.01	16.33	39.05	45.08	62.66	49.34	66.31	61.90	55.05	498.79				
3N/15W-360015	2	40.45	14.21	25.40	2.84	0	28.44	3.69	52.39	52.89	78.65	80.44	61.95	441.15				
3N/15W-360015	3	145.20	146.67	105.97	147.81	127.95	114.27	149.09	155.01	141.61	147.75	141.62	139.45	1662.42				
3N/15W-360015	5	.01	0	0	0	0	0	0	0	3.68	17.82	15.72	12.19	49.22				
3N/15W-360045	7	18.67	12.55	18.84	15.18	16.20	16.97	28.11	32.85	36.84	42.87	42.41	29.57	311.15				
3N/15W-360015	1	21.94	20.95	20.31	20.37	18.78	22.22	23.06	28.65	26.33	33.38	34.31	30.32	303.22				
3N/15W-360015	6	0	0	0	0	.62	.34	.46	.37	.07	.13	.82	0	2.78				
TOTALS		269.22	212.70	205.13	195.23	179.97	221.29	249.46	331.93	310.56	386.91	377.22	329.11	1268.93				
SUBTOTALS - SYLMAR BASIN																		
		675.69	592.18	243.52	202.06	192.28	340.88	445.93	791.66	752.08	782.91	389.34	653.88					

TABLE R-1  
GROUND WATER EXTRACTIONS  
IN ACRE-FEET

		PRODUCTION													TOTAL
STATE	OWNER	1978													
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5											

\* Estimated.

\*\* Extractions not chargeable against City of Los Angeles' water right entitlement.

\*\*\* Includes nonparty extractions and extractions from Reseda Wells by City of Los Angeles.

APPENDIX C  
MEAN DAILY DISCHARGE  
AT  
KEY SURFACE RUNOFF  
GAGING STATIONS



MEAN DAILY DISCHARGE OF LOS ANGELES RIVER ABOVE ARROYO SECO

In second-feet

Station	57C-R											
Day	October	November	December	January	February	March	April	May	June	July	August	September
1	17.4	15.6	16.5	25.0	12.4	2270.0	12.4	16.5	13.0	23.0	16.5	10.5
2	19.3	13.7	22.0	28.0	15.6	1090.0	13.0	15.0	16.5	13.0	14.3	8.7
3	24.0	13.7	11.8	26.0	14.3	80.0	13.0	15.0	11.8	19.3	16.5	11.8
4	14.3	14.3	11.8	24.0	11.0	1900.0	17.4	15.0	15.6	9.2	19.3	13.0
5	12.4	17.4	15.6	23.0	39.0	611.0	13.7	17.4	14.3	8.3	20.0	9.2
6	13.0	1770.0	12.4	11.1	13.0	58.0	13.7	18.4	12.4	10.5	22.0	7.8
7	16.5	845.0	11.8	10.5	13.0	30.0	12.4	16.5	12.4	9.8	22.0	11.1
8	17.4	49.0	13.7	12.4	34.0	20.0	12.4	15.0	14.3	9.8	23.0	13.7
9	18.4	56.0	28.0	26.0	1210.0	20.0	16.5	12.4	18.4	9.2	20.0	12.4
10	16.5	53.0	18.4	798.0	2600.0	24.0	15.0	9.8	15.0	10.5	21.0	15.0
11	15.0	35.0	14.3	162.0	306.0	27.0	12.4	9.8	15.6	9.2	20.0	15.6
12	12.4	32.0	13.0	121.0	45.0	27.0	10.5	11.8	8.3	24.0	14.3	14.3
13	16.5	13.0	13.0	27.0	13.0	28.0	12.4	11.1	50.0	10.5	17.4	9.8
14	17.4	15.0	10.5	41.0	16.5	25.0	17.4	9.8	28.0	9.8	18.4	8.7
15	25.0	12.4	12.4	104.0	13.0	14.3	17.4	9.2	20.0	9.2	14.3	12.4
16	17.4	12.4	14.3	1290.0	13.0	13.7	15.6	13.7	16.5	9.8	12.4	9.2
17	15.0	11.8	12.4	111.0	16.5	13.0	17.4	13.0	15.0	8.7	15.6	11.1
18	14.3	11.8	14.3	24.0	14.3	13.0	22.0	15.0	17.4	7.8	19.3	11.1
19	13.0	11.1	14.3	15.0	15.0	11.1	18.4	15.6	14.3	9.9	25.0	9.8
20	13.7	11.1	13.0	11.7	13.0	12.4	17.4	18.4	13.0	9.8	25.0	8.3
21	14.3	13.0	13.0	13.7	13.7	11.1	21.0	16.5	10.5	8.7	28.0	8.3
22	15.0	14.3	19.3	14.3	12.4	14.3	24.0	14.3	11.1	9.8	16.5	8.7
23	14.3	15.0	13.0	14.3	13.0	22.0	21.0	13.0	14.3	21.0	24.0	9.2
24	15.0	13.7	14.3	16.5	14.3	16.5	28.0	11.8	12.4	19.3	10.5	10.5
25	15.0	12.4	36.0	32.0	13.7	16.5	28.0	15.6	13.7	19.3	13.0	11.1
26	13.7	11.8	26.0	15.6	14.3	16.5	25.0	13.0	16.5	7.4	13.0	8.7
27	15.6	11.1	21.0	17.4	13.7	15.6	26.0	12.4	19.3	15.0	12.4	7.8
28	20.0	17.4	15.0	17.4	2760.0	11.8	28.0	12.4	11.8	15.6	13.8	7.4
29	15.0	11.8	25.0	13.0	12.4	15.0	11.1	15.6	22.0	11.1	12.4	12.4
30	24.0	9.8	21.0	13.0	98.0	16.5	11.1	25.0	18.4	7.8	12.4	12.4
31	15.0	15.0	14.3	12.4	69.0	9.8	9.8	9.8	16.5	7.8	7.8	7.8
Total	501.4	3166.2	513.8	1029.9	7454.7	6600.2	532.9	415.5	505.5	378.1	541.9	320.0
Mean Daily Discharge	16.1	106.0	16.6	97.7	266.0	213.0	17.8	13.4	16.8	12.2	17.5	10.7
Max. Mean Daily Discharge	25.0	1770.0	36.0	1250.0	2760.0	2270.0	28.0	18.4	50.0	23.0	28.0	15.6
Min. Mean Daily Discharge	12.4	9.8	10.5	10.5	12.4	11.1	10.5	9.2	10.5	6.9	7.8	7.4
Run-off in Acre-feet	993.0	6280.0	1020.0	6010.0	14790.0	13090.0	1060.0	824.0	1000.0	750.0	1070.0	635.0
Maximum Stage 6.65 feet at 2212 on March 4, 1970. Discharge 16,970 second feet.											Total Acre-Feet 1969-70 (47520.0)	

MEAN DAILY DISCHARGE OF BIO TUNJUNA CREEK BELOW BIO TUNJUNA DAM

In second-feet

Station	10R-R											
Day	October	November	December	January	February	March	April	May	June	July	August	September
1	9.9	10.0	14.1	14.1	92.8	131.0	36.0	14.3	8.6	3.9	2.3	1.7
2	9.9	10.0	14.2	14.3	12.6	131.0	36.0	14.0	8.0	3.8	2.2	1.7
3	9.9	10.0	14.2	14.1	12.4	131.0	31.0	13.6	7.4	3.7	2.0	1.7
4	9.8	10.0	14.2	13.9	12.2	151.0	33.0	13.2	7.4	3.6	1.9	1.7
5	9.8	10.0	14.0	13.7	12.1	133.0	33.0	12.8	7.4	3.5	1.7	1.7
6	9.8	12.1	13.8	13.5	10.0	110.0	26.0	12.4	7.4	3.4	1.6	1.7
7	9.7	14.0	13.0	13.2	0.0	109.0	13.0	12.1	7.5	3.2	1.6	1.7
8	9.7	30.0	13.4	12.9	0.0	108.0	18.1	12.0	7.5	3.0	1.6	1.7
9	9.7	27.0	13.2	13.9	0.0	107.0	18.1	11.8	7.6	2.8	1.7	1.7
10	9.7	24.0	13.0	14.9	35.0	106.0	18.1	11.7	7.6	2.8	1.7	1.7
11	9.8	20.0	12.9	15.9	142.0	105.0	18.1	11.5	7.6	2.7	1.7	1.8
12	9.9	17.0	13.1	16.9	37.0	103.0	18.1	11.4	7.6	2.7	1.8	1.8
13	10.6	13.7	13.3	16.5	5.7	86.0	70.0	11.2	7.5	2.6	1.8	1.8
14	10.2	13.7	13.5	16.1	12.5	70.0	52.0	11.1	7.4	2.5	1.8	1.8
15	10.4	13.7	13.7	15.7	12.5	60.0	16.0	10.9	7.4	2.5	1.8	1.8
16	10.5	13.7	13.9	21.4	12.5	50.0	16.0	10.8	7.3	2.4	1.9	1.8
17	10.5	13.8	14.1	20.0	12.6	41.0	16.0	10.8	7.2	2.3	1.9	1.8
18	10.6	13.8	14.4	16.0	12.7	41.0	15.9	10.5	7.2	2.2	2.0	1.8
19	10.7	13.8	14.2	15.8	12.6	41.0	15.8	10.3	6.8	2.1	2.0	1.8
20	10.8	13.8	14.0	15.6	12.4	40.0	15.8	10.1	6.4	2.0	2.0	1.8
21	10.6	13.4	13.8	15.3	13.0	39.0	15.7	10.0	6.0	2.0	2.0	1.8
22	10.9	13.8	13.7	15.0	13.1	39.0	15.6	10.0	5.6	2.1	1.9	1.8
23	10.9	13.4	13.6	14.8	13.2	38.0	15.6	10.0	5.2	2.1	1.8	1.8
24	10.7	14.0	13.6	14.5	13.3	38.0	15.6	10.0	4.8	2.1	1.8	1.8
25	10.5	14.0	13.5	14.2	13.4	37.0	15.6	10.1	4.4	2.2	1.8	1.8
26	10.3	14.0	13.5	13.9	13.6	37.0	15.6	10.1	4.3	2.3	1.7	1.7
27	10.1	14.0	13.6	13.6	13.6	37.0	15.6	10.1	4.2	2.4	1.7	1.7
28	9.9	14.0	13.7	13.3	28.0	36.0	15.3	10.1	4.1	2.5	1.7	1.6
29	9.7	14.0	13.6	13.0	13.0	36.0	15.0	10.0	4.0	2.5	1.7	1.6
30	9.6	14.0	13.4	13.0	13.0	36.0	14.8	9.5	4.0	2.6	1.7	1.5
31	9.8	14.0	13.0	13.0	13.0	36.0	14.8	9.2	4.2	2.5	1.7	1.5
Total	314.5	4426.6	425.5	444.0	521.5	24263.0	678.2	345.5	195.4	83.0	56.6	52.1
Mean Daily Discharge	10.1	15.4	13.7	15.0	18.6	73.0	22.5	11.1	6.5	2.7	1.8	1.7
Max. Mean Daily Discharge	10.9	33.0	14.4	21.4	142.0	151.0	70.0	14.3	8.6	3.9	2.3	1.8
Min. Mean Daily Discharge	9.6	10.0	12.9	13.0	0.0	36.0	14.6	9.2	4.0	2.0	1.6	1.5
Runoff in Acre-feet	624.0	418.0	644.0	400.0	1,030.0	4,440.0	1,340.0	685.0	388.0	165.0	112.0	103.0

Note: Station standstill for year due to sluicing operations. Measured value changes and weekly measurements used in determining mean discharges.

Total Acre-Feet 1969-70 (11,620.0)

MEAN DAILY DISCHARGE OF PACOMA CREEK FLUME BELOW PACOMA DAM In second-feet												
Station 118-A	October	November	December	January	February	March	April	May	June	July	August	September
Day												
1	2.7	0.0	0.1	0.2	1.0	1.1	3.5	2.6	3.3	11.0	0.7	0.6
2	1.9	0.0	0.1	0.2	1.0	0.7	1.5	1.6	2.3	59.0	0.7	0.8
3	0.0	0.0	0.2	0.2	1.0	52.0	1.5	2.6	1.3	60.0	0.7	0.8
4	0.0	0.0	0.1	0.2	1.0	25.0	3.4	3.6	3.1	56.0	0.7	0.8
5	0.0	0.0	0.2	0.1	1.0	2.8	3.4	3.6	3.1	54.0	0.7	0.8
6	0.0	0.1	0.2	0.2	3.0	7.6	3.4	3.6	1.3	52.0	0.7	0.8
7	0.0	0.1	0.2	0.2	3.0	5.8	3.4	3.6	3.2	51.0	0.7	0.8
8	0.0	0.0	0.2	0.2	3.0	1.7	3.3	3.6	1.1	47.0	0.7	0.8
9	0.0	0.0	0.1	0.2	3.2	1.6	3.3	3.6	3.2	44.0	0.7	0.8
10	0.0	0.0	0.2	0.2	1.6	1.4	1.3	3.6	1.2	1.0	0.7	0.8
11	0.0	0.0	0.1	0.1	1.0	1.2	1.1	3.6	3.2	2.0	0.7	0.8
12	0.0	0.0	0.2	0.1	3.0	1.2	3.3	1.5	1.2	1.9	0.7	0.7
13	0.0	0.0	0.2	0.2	3.0	1.0	3.2	1.5	1.2	1.8	0.7	0.7
14	0.0	0.0	0.1	0.2	1.0	1.3	3.3	1.5	1.2	1.8	0.8	0.7
15	0.0	0.0	0.1	0.2	1.0	1.3	3.3	1.5	1.2	1.7	0.8	0.7
16	0.0	0.0	0.1	0.2	3.0	3.6	3.3	3.5	1.1	1.6	0.8	0.7
17	0.0	0.0	0.1	0.2	2.9	3.6	3.3	3.2	1.0	1.6	0.8	0.7
18	0.0	0.0	0.1	0.2	1.8	1.7	3.2	3.4	1.0	1.5	0.8	0.6
19	0.0	0.0	0.1	0.2	1.8	1.4	3.3	3.4	1.0	1.7	0.8	0.6
20	0.0	0.1	0.2	0.2	1.8	1.8	3.3	3.4	1.0	1.7	0.8	0.6
21	0.0	0.1	0.1	0.1	2.8	1.7	3.3	3.4	1.0	1.7	0.8	0.6
22	0.0	0.1	0.1	0.2	2.8	1.7	3.3	3.4	1.0	1.7	0.8	0.6
23	0.0	0.1	0.1	0.2	1.8	1.7	3.3	3.4	1.0	1.7	0.8	0.6
24	0.0	0.1	0.1	0.2	1.8	1.7	3.3	3.4	1.0	1.7	0.8	0.6
25	0.0	0.1	0.2	0.2	1.8	1.7	3.3	3.4	1.0	1.7	0.8	0.6
26	0.0	0.1	0.2	0.1	1.8	1.7	3.3	3.4	1.0	1.7	0.8	0.6
27	0.0	0.1	0.2	0.1	1.8	1.7	3.3	3.4	1.0	1.7	0.8	0.6
28	0.0	0.1	0.2	0.1	1.8	1.7	3.3	3.4	1.0	1.7	0.8	0.6
29	0.0	0.1	0.2	0.1	1.8	1.7	3.3	3.4	1.0	1.7	0.8	0.6
30	0.0	0.1	0.2	1.5	1.7	3.6	3.2	1.0	1.0	1.7	0.8	0.6
31	0.0	0.0	0.1	0.2	3.0	3.6	3.3	3.5	1.1	1.7	0.8	0.6
Total	1.6	1.1	6.1	10.1	83.0	191.1	101.5	107.6	111.9	50.9	15.5	20.9
Mean Daily Discharge 0.15	0.01	0.01	0.10	0.13	3.0	5.1	3.4	3.5	3.5	17.6	0.8	0.7
Max. Mean Daily Discharge 2.7	0.1	0.1	1.0	3.6	51.0	7.6	3.6	3.6	11.0	60.0	0.8	0.8
Min. Mean Daily Discharge 0.0	0.0	0.0	0.1	0.1	1.8	0.7	3.2	3.3	3.0	0.7	0.7	0.6
Runoff in Acres-feet 9.1	1.6	1.1	11.0	20.0	165.0	779.0	101.0	112.0	222.0	99.0	17.0	11.0
Maximum Stage 1.71 Feet at 1310 On March 1, 1970. Discharge 150 Second Feet.												
(-) Denotes insignificant flow.												
											Total Acre-Feet 1969-70 (2310.0)	

MEAN DAILY DISCHARGE OF VERDUGO CHANNEL AT ESTELLE STREET In second-feet												
Station 22-B	October	November	December	January	February	March	April	May	June	July	August	September
1	2.5	10.9	2.8	2.8	6.2	127.0	6.0	2.8	2.8	8.4	9.5	5.0
2	2.5	14.0	2.8	2.8	8.4	142.0	6.0	2.8	5.0	8.4	13.0	3.0
3	2.5	10.6	2.8	2.8	3.9	10.0	6.0	2.8	5.0	8.4	13.0	2.8
4	2.3	10.6	2.8	2.8	5.0	206.0	5.0	2.8	5.0	8.4	12.0	3.9
5	2.3	10.6	3.0	2.8	2.8	45.0	5.0	2.8	5.0	8.4	8.4	2.8
6	2.8	10.6	3.0	2.5	2.5	2.0	5.0	2.8	3.9	7.3	6.2	2.5
7	2.8	10.6	3.0	2.5	2.5	2.0	4.0	3.9	5.0	7.3	6.2	2.8
8	2.8	10.6	3.0	2.5	2.8	2.0	4.0	5.0	6.2	7.3	6.2	2.8
9	2.8	3.9	3.0	5.0	63.0	2.0	3.0	5.0	6.2	6.2	6.2	2.8
10	3.9	3.9	3.0	14.0	261.0	3.0	3.0	6.2	6.2	8.4	3.9	2.8
11	3.9	3.9	3.0	7.3	37.0	3.0	3.0	11.0	6.2	7.3	2.8	2.8
12	3.9	3.9	3.0	9.5	7.3	3.0	3.0	6.2	6.2	7.3	2.8	2.8
13	3.0	3.9	3.0	5.0	5.0	2.5	3.0	6.2	8.4	7.3	6.2	2.8
14	3.9	3.9	3.0	22.0	5.0	3.9	3.0	5.0	6.2	6.2	6.2	2.8
15	3.0	3.9	3.0	2.8	3.9	7.3	3.0	6.2	6.2	6.2	7.3	2.8
16	5.0	3.9	3.0	72.0	3.9	6.2	2.5	5.0	7.3	6.2	7.3	2.8
17	5.0	3.5	3.0	6.2	3.9	7.3	7.3	6.2	6.2	7.3	7.3	3.0
18	5.0	3.5	4.0	6.2	2.8	7.3	2.5	5.0	6.2	8.4	13.0	2.8
19	5.0	3.5	4.0	6.2	2.5	6.2	3.9	6.2	8.4	8.4	8.4	3.0
20	6.2	3.5	4.0	6.2	3.9	6.2	2.8	3.9	8.4	8.4	9.5	3.0
21	6.2	3.5	4.0	6.2	3.9	6.2	3.9	3.9	8.4	8.4	2.8	3.0
22	6.2	3.5	4.0	6.2	3.9	6.0	5.0	2.8	8.4	9.5	3.9	3.0
23	6.2	3.5	4.0	5.0	2.8	6.0	3.9	2.8	8.4	8.4	3.9	3.0
24	7.3	3.5	4.0	5.0	2.8	6.0	3.9	2.8	7.3	8.4	2.8	3.0
25	7.3	3.5	4.0	5.0	2.8	6.0	3.9	2.8	7.3	8.4	3.9	3.0
26	7.3	3.5	2.8	5.0	2.8	6.0	5.0	3.9	8.4	8.4	3.9	3.0
27	7.3	3.5	2.8	5.0	2.8	6.0	6.2	3.9	8.4	8.4	5.0	3.0
28	7.3	3.5	2.8	5.0	253.0	6.0	3.9	3.9	9.5	9.5	9.5	3.0
29	7.3	3.5	2.8	5.0	2.8	6.0	2.8	2.8	9.5	11.0	9.5	3.0
30	7.3	3.5	2.8	7.3	30.0	7.3	2.8	2.8	9.5	11.0	9.5	3.0
31	6.2		2.8	6.2		7.3		2.8		9.5	6.2	
Total	151.0	170.7	99.0	244.8	708.1	685.4	116.3	133.0	205.1	252.4	215.1	90.9
Mean Daily Discharge	4.9	5.7	3.2	7.9	25.3	22.1	3.9	4.3	6.8	8.1	6.9	3.0
Max. Mean Daily Discharge	7.3	14.0	4.0	72.0	261.0	260.0	6.0	11.0	9.5	11.0	13.0	5.0
Min. Mean Daily Discharge	2.3	3.5	2.8	2.5	2.5	2.0	2.3	2.8	2.8	6.2	2.8	2.5
Run-off in Acres-Feet	300.0	339.0	196.0	486.0	1400.0	1,360.0	231.0	264.0	407.0	501.0	427.0	180.0
Maximum Stage	2.05 Feet at 1346 on Feb. 28, 1970. Discharge 2500 Second Feet.										Total Acre-Feet 1969-70 (6000.0)	



MEAN DAILY DISCHARGE OF BURBANK WESTERN STORM DRAIN AT RIVERSIDE DRIVE  
In second-feet

Station 2285-R

Day	October	November	December	January	February	March	April	May	June	July	August	September
1	5.6	5.6	4.5	13.2	17.8	74.0	11.7	8.6	7.1	5.6	8.6	7.7
2	8.6	5.6	7.1	13.2	16.2	32.0	10.2	7.1	10.2	5.6	8.6	7.7
3	8.6	7.1	14.0	14.0	10.2	3.4	5.6	10.2	10.2	4.5	10.2	7.7
4	7.1	7.1	7.1	8.6	8.6	144.0	8.6	5.6	10.2	3.9	8.6	7.7
5	7.1	7.1	5.6	8.6	8.6	8.0	7.4	5.6	10.2	3.4	8.6	7.7
6	8.6	153.0	5.0	8.6	7.1	11.7	5.4	5.6	10.2	8.6	8.6	7.7
7	7.1	14.3	5.0	5.6	7.1	13.2	5.6	10.2	10.2	8.6	8.6	7.7
8	7.1	7.1	7.1	8.6	7.1	13.2	5.0	8.6	13.2	10.2	8.6	7.7
9	7.1	7.1	5.6	16.4	13.2	13.2	5.0	8.6	8.6	8.6	8.6	7.7
10	7.1	8.6	7.1	15.9	32.0	14.7	5.0	7.1	8.6	8.6	8.6	7.7
11	7.1	8.6	8.6	11.0	16.3	13.2	3.9	7.1	7.1	10.2	8.6	7.7
12	7.1	8.6	7.1	8.6	7.1	10.2	4.5	7.1	11.7	10.2	8.6	7.7
13	8.6	8.6	8.6	5.6	7.1	10.2	4.5	5.6	7.1	8.6	8.6	7.7
14	7.1	8.6	7.1	10.2	5.6	11.7	3.9	5.0	8.6	8.6	7.1	7.7
15	8.6	7.1	7.1	5.6	5.6	5.1	3.9	5.6	10.2	7.1	7.1	7.7
16	7.1	7.1	7.1	64.0	5.6	5.6	5.6	5.6	10.2	5.6	7.1	7.7
17	7.1	7.1	7.1	5.6	5.0	5.0	5.6	5.6	10.2	5.6	7.1	7.7
18	5.6	7.1	7.1	5.6	5.6	7.1	7.1	5.6	8.6	5.6	7.1	7.7
19	5.6	7.1	5.6	5.6	5.0	8.6	5.6	5.6	8.6	7.1	7.7	7.7
20	5.6	7.1	7.1	5.0	5.6	8.6	8.6	8.6	8.6	5.6	7.1	7.7
21	7.1	8.6	7.1	5.6	7.1	7.1	5.6	8.6	3.9	7.1	5.6	7.7
22	7.1	7.1	7.1	7.1	5.6	11.7	8.6	8.6	3.9	5.6	5.0	7.7
23	5.6	5.6	7.1	7.1	7.1	11.7	7.1	8.6	7.1	8.6	5.0	7.7
24	7.1	5.6	7.1	5.6	8.6	11.7	5.6	8.6	8.6	8.6	5.0	7.7
25	8.6	5.6	5.6	7.1	8.6	11.7	5.6	8.6	8.6	8.6	8.6	7.7
26	7.1	5.6	7.1	8.6	8.6	11.7	7.1	8.6	5.0	8.6	8.6	7.7
27	8.6	5.6	7.1	8.6	14.7	11.7	10.2	8.6	3.9	10.2	5.6	7.7
28	7.1	5.6	7.1	13.2	198.0	11.7	8.6	3.9	3.9	10.2	5.6	7.7
29	7.1	5.6	11.7	13.2	11.7	11.7	8.6	8.6	3.9	10.2	5.6	7.7
30	5.6	5.0	13.2	14.7	37.0	37.0	8.6	7.1	3.9	10.2	5.6	7.7
31	5.6		13.2	14.7	11.7	11.7	7.1	7.1	10.2	10.2	7.1	7.7
Total	220.1	359.5	229.5	343.6	404.5	568.9	201.2	222.6	237.7	241.4	230.4	230.4
Mean Daily Discharge	7.1	12.0	7.4	11.1	17.7	18.4	6.7	7.2	7.9	7.8	7.4	7.7
Max. Mean Daily Discharge	8.6	153.0	13.2	16.4	198.0	144.0	11.7	10.2	11.7	10.2	10.2	Assumed Average
Min. Mean Daily Discharge	5.6	5.0	4.5	5.0	5.0	5.0	3.9	5.0	3.9	3.4	5.0	
Runoff in Acre-Feet	438.0	692.0	455.0	682.0	981.0	1130.0	399.0	441.0	471.0	479.0	457.0	456.0
Maximum stage 1.80 feet at 2100 on March 4, 1970. Discharge 1500 second feet.	Total Acre-Feet 1464.70 (7080.0)											

MEAN DAILY DISCHARGE OF LOS ANGELES AT TATIANA AVENUE  
In second-feet

Station 300-R

Day	October	November	December	January	February	March	April	May	June	July	August	September
1	10.6	14.9	22.0	13.9	11.1	2090.0	18.3	17.7	18.3	17.5	1.0	14.4
2	10.6	13.9	21.0	14.4	11.8	602.0	15.7	18.3	18.3	15.4	12.5	14.7
3	10.4	13.9	10.6	17.7	12.0	89.0	18.3	18.3	16.9	16.9	14.7	15.4
4	10.6	13.7	11.1	14.4	13.4	1550.0	15.9	18.5	17.7	16.7	13.9	15.4
5	8.6	15.4	12.7	13.0	13.0	250.0	14.4	18.8	16.9	15.7	14.7	14.2
6	10.9	2450.0	11.6	10.9	13.0	39.0	14.7	19.1	16.4	16.4	15.4	13.7
7	11.6	509.0	12.0	8.9	13.2	30.0	14.9	19.4	16.4	15.9	15.7	14.7
8	11.1	38.0	13.9	11.1	13.2	7.0	14.2	19.1	15.4	15.4	16.2	14.7
9	11.6	46.0	14.4	13.2	1180.0	3.0	15.2	19.1	16.2	14.7	14.4	14.7
10	10.6	36.0	17.6	429.0	1930.0	22.0	15.2	18.5	16.2	17.7	13.9	15.4
11	11.3	21.0	11.6	163.1	139.0	20.0	13.9	18.0	14.4	14.9	13.0	15.7
12	11.3	6.0	11.8	51.0	26.0	20.0	14.4	17.5	15.7	14.4	15.4	15.4
13	11.8	10.9	14.9	14.9	15.9	20.0	14.7	17.7	14.4	14.7	16.7	14.7
14	14.5	11.3	11.6	45.0	11.8	20.0	13.0	16.2	14.2	15.4	19.1	14.4
15	16.9	11.8	11.8	42.0	10.6	18.3	14.7	17.7	13.2	14.7	15.9	13.0
16	1.0	13.0	11.6	941.0	9.7	16.7	15.7	23.1	17.7	15.4	14.9	14.7
17	14.4	10.0	11.3	36.0	12.0	18.4	15.4	20.0	14.4	15.7	15.4	14.4
18	11.8	8.7	11.8	14.9	11.1	13.4	16.2	18.5	15.2	15.4	15.7	14.4
19	11.6	9.7	12.0	11.6	9.5	12.5	15.9	18.5	14.4	14.4	15.4	13.4
20	11.6	10.4	11.6	11.3	9.3	13.7	16.2	18.8	13.7	14.4	14.7	13.7
21	13.4	14.2	11.3	12.0	11.6	15.2	15.7	16.4	14.7	15.9	14.4	15.2
22	14.4	19.9	14.7	12.0	11.6	15.7	15.4	15.9	15.4	15.4	16.4	16.9
23	14.4	22.0	11.6	1.7	11.3	15.4	14.4	17.7	15.7	1.0	14.7	14.2
24	14.4	16.7	7.0	26.0	11.3	17.5	15.4	17.7	14.9	18.8	13.0	14.9
25	14.4	11.8	34.0	1.5	11.6	21.0	15.2	25.0	15.9	17.5	14.7	14.4
26	14.4	14.2	34.0	1.0	1.0	14.9	14.9	1.0	16.7	17.7	14.7	13.7
27	13.9	18.5	3.4	11.6	11.8	14.0	14.4	19.7	15.4	15.7	15.4	15.2
28	13.7	18.8	30.0	10.4	2180.0	1.0	14.4	20.0	15.4	18.4	16.7	15.4
29	14.7	15.4	16.7	10.0	13.0	15.9	19.4	15.7	14.7	14.7	15.4	14.9
30	13.7	17.6	6.4	13.4	13.4	35.0	16.2	20.0	17.5	10.4	14.9	13.4
31	17.3		10.0	10.6	10.6	21.0	21.0	20.0	11.6	15.7		
Total	388.9	3451.5	489.1	2134.0	5667.0	5144.0	468.0	586.3	516.3	446.2	46.8	439.1
Mean Daily Discharge	12.5	115.0	15.8	68.8	202.0	165.0	15.6	18.9	17.2	15.7	14.9	14.6
Max. Mean Daily Discharge	17.3	2450.0	34.0	941.0	2180.0	2090.0	21.0	25.0	49.0	1.0	19.1	16.9
Min. Mean Daily Discharge	8.2	8.7	6.4	8.9	9.3	1.5	13.9	16.2	13.2	10.2	17.0	13.4
Runoff in Acre-Feet	771.0	6950.0	970	230.0	11240.0	10160.0	928.0	1160.0	1020.0	944.0	918.0	869.0
Maximum stage 7.92 feet at 2124 on March 4, 1970. Discharge 11,620 second feet.	Total Acre-feet 1964.70 (40,080.0)											









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